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AN ANALYSIS OF TWELVE STANDARDIZED READING READINESS TESTS

Submitted by

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INTRODUCTION

Reading is fundamental to the educational program. One of its major problems is that of reading readiness. There is a growing need for developing and establishing readiness for each phase of reading at all levels as evidenced by the fact that stress is constantly being placed in that area by educators and investigators of educational subjects.

Many parents and teachers assume that every six-year-old child who enters first grade can be taught to read almost immediately. Considerable research has been conducted to determine whether or not a child is ready to read when he enters school. Results of these studies indicate that it is detrimental to attempt to teach children who are not ready to learn what is to be taught. Research also proves first grade to be the time of greatest failure and the cause of this failure to be reading. Almost twenty per cent[1/] of first grade children fail to read the usual beginning textbooks with competence by the end of the first year.

As a result of such research, experimenters conclude that reading readiness is a vital factor in reading success and is something to be developed, rather than something for which to wait. Factors important to reading readiness have been studied and identified and reading instruction of a varied nature has been provided to develop these abilities and experiences essential to reading success.

1/ Division of Tests and Measurements, Determining Reading Readiness, New York: Bureau of Reference, Research and Statistics, 1943, p. 1.

Research has been conducted on many phases of reading readiness. Studies are concerned with mental age, environmental factors, sex differences, visual and auditory perception, and combinations of these factors. Tests have been built to measure the effectiveness of such elements. Because the number of reading failures is so great, tests which purport to measure reading readiness are of major importance.

This study attempts to analyze such tests on an individual basis. The writer hopes to provide a single source of reference for those interested in examining various factors present in standardized reading readiness tests that are available at the time of this writing.

CHAPTER I

Summary of Previous Research

SUMMARY OF PREVIOUS RESEARCH

Studies Concerning Mental Age.

"The importance of readiness for reading is being stressed by educators and writers on educational subjects. Not only must the child be ready for beginning instruction but there is continuing need for developing and establishing readiness for each phase of reading at various levels of maturity."[1/]

There have been studies on measures for determining whether or not a child is ready to read when he enters school and on the means of developing reading readiness. Gates and others[2/] conclude that reading readiness is something that children have acquired in varying degrees; it is something to be taught and not a series of attributes for the development of which teachers can do nothing but wait. With few exceptions, the best tests for predicting reading progress are tests of abilities, interests, and techniques which can be learned and consequently, successfully taught. Their study appraises the predictive value of nearly two hundred devices. The study included schools with children representative of all kinds of environments, social status, and intelligence quotients. The authors conclude that the tests which were most predictive were: word recognition, ability to complete a told story, giving words which end or begin with the same sound as given sample, blending word sounds given orally, and reading letters of the alphabet.

1/ The Supervisor's Exchange -- A Research Service, The Language Arts-Part II, New York: Silver Burdett Company, 1947, p. 3.

2/ Gates, Arthur I., Bond, Guy L., and Russell, David H., Methods of Determining Reading Readiness, Teachers College, Columbia University, 1939.

"Educators agree that before expecting a child to read he must be mentally, emotionally, and physically mature enough to learn to read readily, happily, and successfully."[1/] Failure in the early grades produces psychological and emotional blocks to progress which are difficult to overcome and in most cases are unnecessary and preventable.[2/]

A few investigators feel that delaying reading instructions until the child is chronologically eight or nine years old will automatically solve the problem of readiness. A large majority of findings indicate the need for specific preparation for reading based upon the factors involved in reading readiness. Gates and Bond[3/] indicate that the attainment of a certain mental age on an intelligence test is less important for reading readiness than it was formerly thought to be.

Davidson[4/] reported success in teaching reading to children of four years mental age and Raguse[5/] concluded a mental age of five years is sufficient for success.

1/ The Supervisor's Exchange -- A Research Service, The Language Arts--Part II, New York: Silver Burdett Company, 1947, p. 3.

2/ Factor, Bernice, "The Preventing of Reading Failures Before First Grade Entrance", The Elementary English Review, Vol. XVII: April, 1940, p. 144-48, 164.

3/ Gates, Arthur I., and Bond, Guy, "Reading Readiness: A Study of Factors Determining Success and Failure in Beginning Reading", Teachers College Record, Vol. XXXVII: May, 1936, p. 679-85.

4/ Davidson, H. P., "An Experimental Study of Bright, Average, and Dull Children at the Four-Year Mental Level", Genetic Psychology Monographs, Vol. IX: No. 3 and 4, March, April, 1931.

5/ Raguse, R. W., "Qualitative and Quantitative Achievement in First Grade Reading", Teachers College Record, Vol. XXXII: February, 1931, p. 424-436.

Dolch and Bloomster[1/] studied the relationship between the use of phonics and the general mental maturity as shown by an intelligence test and found that the mental age of seven years seems to be the lowest at which a child is able to use phonics.

There have been a number of studies of tests and other procedures of determining readiness for reading. Gates[2/] using a battery of seven unpublished reading readiness tests found that when these tests were administered two or three weeks after the pupils entered school they predicted fairly well the scores made by pupils at mid-year on a battery of four achievement tests.

Monroe's findings[3/] show that a mental age of six years does not guarantee success in beginning reading. She reported a correlation of .66 ± .04 between reading achievement and the scores on the auditory test for reading readiness. This is a higher correlation than any other single score on the battery which includes visual, motor, articulation, and language tests.

Other investigators have studied the value of certain published reading readiness tests in predicting reading achievement. Huggett[4/] found that the

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1/ Dolch, E. W., and Bloomster, Maurine, "Phonic Readiness", Elementary School Journal, XXXVIII: November, 1937, p. 201-205.

2/ Gates, Arthur, I., "An Experimental Evaluation of Reading Tests", Elementary School Journal, XXXIX: March, 1939, p. 497-508.

3/ Monroe, Marion, "Reading Aptitude Tests for Prediction of Success and Failure in Beginning Reading", Education, Vol. 56: September, 1935, p. 7-14.

4/ Huggett, A. J., "An Experiment in Reading Readiness", Journal of Educational Research, XXXII: December, 1938, p. 263-270.

Metropolitan and Van Wagenen Readiness Tests when administered to kindergarten children, appeared to have fairly high correlations with the reading achievement of the same children one year later. According to Dean[1/] there is some evidence that the mental ages of beginning pupils predict their scores on subsequent achievement tests somewhat more accurately than these scores can be predicted by the results of reading readiness tests. A study by Fendrick and McGlade[2/] indicates that the use of a reading readiness test in combination with an intelligence test seems to be more effective in predicting reading achievement than either type of test alone.

In summarizing the evidence on this point, Gates[3/] says that "statements concerning the necessary mental age at which a pupil can be instructed to learn to read are essentially meaningless. The age for learning to read under one teacher may be entirely different from that required under other circumstances." Gates points out, however, that there is a positive though variable correlation between mental age and reading achievement, and that the correlation is highest in classes where the best instruction is given.

1/ Dean, Charles D., "Predicting First-Grade Reading Achievement", Elementary School Journal, XXXIX: April, 1939, p. 609-616.

2/ Fendrick, Paul, and McGlade, Charles A., "A Validation of Two Prognostic Tests of Reading Aptitude", Elementary School Journal, XXXIX: November, 1938, p. 187-194.

3/ Gates, Arthur I., "The Necessary Mental Age for Beginning Reading", Elementary School Journal, XXXVII: March, 1937, p. 497-508.

Studies Concerning Environmental Factors.

According to Hilliard and Troxell[1/] cultured background is an important factor in both reading readiness and reading progress. Some interesting results of a study by Ransom[2/] were that, on the average, children who were not ready to read had more physical defects, came from poorer homes, were older, had more language defects, had poorer coordination, and had shorter interest and attention span than normal readers. Anderson[3/] found that most children who are reading problems when they enter school lack the experience necessary to respond meaningfully to either oral or written language.

Studies Concerning Sex Differences.

Carroll[4/] reports that statistically significant sex differences appear during the reading readiness period. "Since they exist before formal teaching takes place, it is reasonable to believe that such differences appearing later in any measurement of achievement are not due to teaching alone." In visual and auditory discrimination on the reading readiness level she reports girls superior to boys in visual discrimination for the length of words. She also reports a tendency for girls to be better than boys in the auditory discrimination required to distinguish between sounds in words.

1/ Hilliard, George, H., and Troxell, E., "Informational Background as a Factor in Reading Readiness and Reading Progress", Elementary School Journal, XXXVIII: December, 1937, p. 255-63.

2/ Ransom , Katherine A., "A Study of Reading Readiness", Peabody Journal of Education, XVI: January, 1939, p. 276-84.

3/ Anderson, Irving H., "An Evaluation of Some Recent Research in Psychology of Reading", Harvard Educational Review, VII: May, 1937, p. 330-39.

4/ Carroll, Marjorie, Sex Differences in Reading Readiness, Unpublished Master's Thesis, Boston: Boston University, 1941.

Durrell[1] studied 1,130 children using the Stanford-Binet Scale as the criterion and he reports twenty per cent of the boys were retarded in reading, while only ten per cent of the girls were similarly retarded.

Poule[2] reports that girls reach maturity in articulation about a year earlier than boys. Both develop at about the same rate up to five years of age but from this point girls show more rapid growth. Other things being equal, first grade girls will have the same patterns of sound substitution as second grade boys.

Studies Concerning Visual and Auditory Factors.

Acomb[3] concluded that visual and auditory discrimination, perception, and associability are highly significant factors in relation to reading ability. He reported a correlation of .70 ± .02 between reading and visual memory of word pattern.

Wilson and Burke[4] while carrying on a study of reading readiness tests in the Horace Mann School came to the following conclusions:

1/ Durrell, Donald D., The Improvement of Basic Reading Abilities, Yonkers-on-Hudson, World Book Company, 1940, p. 281

2/ Poule, Irene D., "The Speech Aspects of Reading Readiness", The National Elementary Principal, Seventeenth Yearbook, Vol. XVII, No. 7: July, 1938, p. 286.

3/ Acomb, Allan, Study of the Psychological Factors in Reading and Spelling, Master's Thesis, Boston: Boston University, 1936.

4/ Wilson, F., and Burke, A., "Reading Readiness in a Progressive School", Teachers College Record, Vol. XXXVIII: April, 1937, p. 565-568.

1. Certain abilities with letter forms and sounds were strikingly related to reading progress, namely -- naming letters, producing phonic combinations, giving letter sounds, and writing words.

2. These relationships were much closer than any other measured abilities including mental age or I. Q.

Meek[1/] analyzed the possible clues in word recognition and drew the following conclusions:

1. Children did hit upon certain letters for means of identification of words.

2. Initial and final letters plus letters of peculiar formation seem to be selected as cues.

3. The cue selected seems to be dependent upon the total situation set up.

Davidson[2/] studied the confusing letters of the alphabet and concluded that:

1. Increase in ability to discriminate between letters comes with increasing mental maturity and especially with experience with these confusing letters.

2. These letters may be confusing at first, but with use and practice, they come to be recognized as different letters.

Gates[3/] found word perception is most closely associated with achievement in reading and spelling. Intelligence yields the next highest correlation. He concluded that the ability to perceive word forms, with the influence of age and intelligence eliminated, is substantially associated with reading and spelling ability.

1/ Meek, Lois H., A Study of Learning and Retention in Young Children, Teachers College Contributions to Education, No. 164, New York: Bureau of Publications, Teachers College, Columbia University, 1925, p. 58-59.

2/ Davidson, Helen P., "A Study of Confusing Letters, b, d, p, and q", Pedagogical Seminary and Journal of Genetic Psychology, XLVII, December, 1935, p. 458-68.

3/ Gates, Arthur I., "A Study of the Role of Visual Perception, Intelligence, and Certain Associative Processes in Reading and Spelling", Journal of Educational Psychology, Vol. XVII: October, 1926, p. 433-445.

Wilson and Flemming[1/] conclude that initial likenesses seemed much more apparent to kindergarten children than final likenesses although ability of the latter type is indicated. The children used in this study were in the early stages of reading and were found to be letter conscious. The evidence seems to indicate that young children give early attention to letter forms and sounds.

Wilson and others[2/] reporting on a study in beginning reading which they carried on for three years conclude that reading readiness is in reality reading progress in the initial stages of learning to read. They see two aspects of it, namely, mechanics and interests, and state that no inherent qualitative differences explain the rate of progress in reading. Rather, these authors find these differences may be explained mainly in terms of learning, with the mastery of letter symbols, both visual and auditory, the most important part of the process. Their study showed that the children recognized certain sounds as letters already familiar and used this knowledge in finding the new words presented to them. Different groups of children studied in three successive years support their conclusions that such auditory discrimination is used as an aid in attacking new words.

Bond[3/] studied the auditory and speech characteristics of poor readers, in order to find the relation of these factors to reading retardation.

1/ Wilson, F. T., and Flemming, C., "Letter Consciousness of Beginners in Reading", Journal of Genetic Psychology, Vol. LIII: 1938, p. 273-285.

2/ Wilson, F. T., Flemming, C., Burke, A., and Garrison, C., "Reading Progress in Kindergarten and Primary Grades", Elementary School Journal, Vol. XXXVIII: February, 1938, p. 442-449.

3/ Bond, Guy L., The Auditory and Speech Characteristics of Poor Readers, New York: Bureau of Publications, Teachers College, Columbia University, 1935.

He studied poor readers in the second and third grades in order to ascertain the relationship of these factors to reading disability. A group of poor readers was matched for age, sex, schooling, and intelligence with a group of good readers as compared with respect to auditory and speech characteristics. A significant difference was found between the control and experimental groups in auditory acuity. An even greater difference was found, however, between the pupils taught by the phonetic method since 63% of the poor readers had a definite hearing loss. Only one good reader from the phonetic population had a similar loss. No significant differences were found, however, between the control and experimental cases that were taught by a look-and-say method.

Sullivan and McCarthy[1/] studied five frequently used reading readiness tests and reported visual discrimination to be a factor included in all of the five tests. Items for auditory discrimination appeared in several of these tests. They concluded that:

1. The materials discriminated well between the various chronological age groups of the population tested.

2. The rank order of difficulty of the various functions tested were revealed to be stable at all chronological age levels of the population upon which the tests were administered.

3. There were no statistically significant differences between the results obtained by boys and girls on the twelve tests in the battery.

4. The tests discriminated well between the various mental age groups of the small population upon which there were mental age data.

1/ Sullivan, H. B., and McCarthy, J., "An Evaluation of Reading Readiness Materials", Education, Vol. LXII: September, 1941, p. 40-43.

Robinson[1/] summarized clinical studies at the University of Chicago Orthogenic School and reports that preliminary training in auditory discrimination proved valuable for both the speech and reading work which followed.

Junkins[2/] evaluated the effect of visual discrimination exercises upon beginning reading and concluded that in the visual discrimination test the experimental group was superior to the control group. The visual discrimination exercises improved the rate of learning of new words. The mean number of words learned by the control group was 2.76 as compared with 4.41 for the experimental group. In the Detroit Word Recognition Test the experimental group was superior to the control group.

Murphy and Junkins[3/] studied the effectiveness of a formalized teaching program in auditory and visual discrimination. The program consisted of thirty ten minute exercises in auditory discrimination of word elements and an equal number of exercises in visual discrimination of word elements. These exercises were given during a six week period to groups of children who had made little or no progress in reading during the first semester of the first grade. One group of fifty children received special training in auditory discrimination; a second group, training in visual discrimination; a third group, the control group, received no special training but continued with their regular work. The following results of the study were noted:

1/ Robinson, Helen M., "Types of Deficient Readers and Methods of Treatment for Recent Trends in Reading", Edited by W. S. Gray, Supplementary Educational Monograph, XLIX, p. 165-166. November, 1939

2/ Junkins, Kathryn M., The Construction and Evaluation of Exercises for Developing Visual Discrimination in Beginning Reading, Master's Thesis, Boston: Boston University, 1940.

3/ Murphy, Helen A., and Junkins, Kathryn M., "Increasing the Rate of Learning in First Grade Reading", Education, LXII: September, 1941, p. 37-39.

1. All groups made progress in visual discrimination, but the special group made a greater gain than the other two.

2. In auditory discrimination, the special auditory group showed marked progress while the other groups made almost no gain.

3. The learning rate of the two experimental groups as indicated by the retention of words taught was found to be twice as great at the end of the training period as at the beginning. The control group had only improved slightly in this respect. Both sets of exercises appeared to be effective in increasing the rate of learning to read.

The evidence from these investigations appears to stress the significance of auditory and visual discrimination in determining success in beginning reading. "Children can be taught."

Murphy[1/] evaluated the effect of specific training in auditory and visual discrimination on:

1. learning rate,

2. reading achievement,

3. change in the child's visual perception of words, and

4. the change in the child's auditory discrimination between likenesses and differences in words.

Tests were constructed to measure various functions in beginning reading. The children were divided into four groups of 120 each. One group was taught material designed to develop visual discrimination and material designed to develop auditory discrimination for ten minutes a day for thirty successive school days. The second group was taught visual material for ten minutes a day and the third group was taught auditory material only for the

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1/ Murphy, Helen A., An Evaluation of the Effect of Specific Training in Auditory and Visual Discrimination on Beginning Reading, Doctor's Thesis, Boston: Boston University, 1943, p. 74-80.

same amount of time, while the fourth group, the control group, had no particular training. She concluded that:

1. In reading achievement the experimental groups were superior to the control groups in November, February, and June.

2. In June reading achievement test scores showed the experimental teaching materials to be in the following order of increasing effectiveness: visual perception training, auditory perception training, and visual and auditory training combined.

Biggy[1/] studied the relative order of word elements in auditory discrimination by administering a group test for auditory discrimination during the first week of school. The test was designed to measure untrained abilities in auditory discrimination and the results were analyzed in an attempt to establish orders of difficulties for initial sounds, initial blends, final consonants, rhymes, and those letters used as both beginning and final consonants. She found "g" to be the least difficult initial consonant and "w" to be the most difficult. "Ch" was found to be the least difficult initial blend and "sh" was found to be the most difficult. Final "y" was found to be the least difficult to distinguish while "d" was found to be the most difficult final consonant. The phonogram "ing" was found to be much easier than any of the other rhymes included in the test. "At" was found to be noticeably more difficult, but even as the most difficult rhyme tested it was found to be easier to distinguish than the least difficult final consonant. The sound "s" was found to be easiest to distinguish both in final and initial consonants. "G" was found to be the easiest initial consonant, and the second most difficult final consonat. "L" was found to be twice as easy

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1/ Biggy, M. V., Establishment of a Relative Order of Difficulty of Word Elements in Auditory Discrimination, Master's Thesis, Boston: Boston University, 1946.

to distinguish when used as a final consonant as when used as a beginning consonant. "N" was found to remain in the same position both as an initial and a final consonant. "P" as an initial consonant was found to be twice as easy to distinguish as when used as a final consonant. "T" was found to be much more difficult to distinguish as a beginning consonant than when used as a final consonant.

Studies on Combinations of Factors Influencing Reading Readiness.

Witty and Kopel[1/] conclude that reading readiness tests are valuable when used in connection with other data, but that an expression of real need for reading on the part of the child is one of the most reliable indices of readiness.

Harrison[2/] suggests that while formerly reading readiness has been thought of only in connection with beginning reading the program now concerns itself with preparation for reading at all educational levels in which reading is used as a tool of learning.

A study by Gates[3/] leads to the assumption that the teacher will profit most from reading readiness tests if she concerns herself with a pupil's status in each test and arranges her later work to conform to it. Every consideration, moreover, points to the desirability of knowing and carefully considering each pupil's status on each readiness test and of conducting sub-

1/ Witty, Paul and Kopel, David, "Preventing Reading Disability: The Reading Readiness Factor", Educational Administration and Supervision, XXII: September, 1936, p. 401-18.

2/ Harrison, M. Lucille, Reading Readiness, Boston: Houghton Mifflin Company, 1936.

3/ Gates, Arthur I., "An Experimental Evaluation of Reading-Readiness Tests", Elementary School Journal, XXXIX: March, 1939, p. 497-508.

sequent instruction, not in any standardized pattern for the class as a whole, but in such various forms as are indicated by individual needs.

According to Wright,[1] a child's readiness for systematic reading is influenced by many factors. The more important ones may be considered as

1. Physical conditions

   a. Vision
   b. Hearing
   c. Speech
   d. Physical vitality

2. Mental abilities

   a. Mental maturity
   b. Abstract thinking
   c. Memory span
   d. Ability to distinguish likenesses and differences in word forms.

3. Personal qualities and experience

   a. Home conditions
   b. Breadth of experience
   c. Language
   d. Adjustability
   e. Emotional stability
   f. Interest in reading activities.

Gates[2] has divided those reporting reading readiness into three groups. Group 1 feels that reading readiness is a period of expression stressing the interest or purpose of the child. Here he is made conscious of the things about him, thus preparing him for the vicarious experiences to come later. Group 2 feels that mental age is the most important factor in the program. Among this group are those who maintain that a child should have attained a mental age of six years, six months before he is taught to read.

1/ Wright, Wendell, "The Nature and Measurement of Reading Readiness", The National Elementary Principal Seventeenth Yearbook, XVII: p. 248-9, July, 1938.

2/ Gates, Arthur I., "Basic Principles in Reading Readiness Testing", Teachers College Record, XV: March, 1939, p. 495-506.

Group 3 feels that it is a general maturation period in which the child matures mentally and socially. The most recent statements of authorities in the field seem to indicate that it is a combination of all three points of view with certain additions.

From the studies reported it is evident that certain abilities are important if a child is to be successful in learning to read. This study is an attempt to analyze standard tests of reading readiness in order to find what factors are measured in each test.

CHAPTER II

Plan of the Study

Plan of the Study

This study is an attempt to analyze twelve standardized reading readiness tests. Such tests are usually constructed to test the abilities of children from pre-school age, through kindergarten, and into first grade. Reading readiness tests are also used for older children in an effort to locate and diagnose their reading disabilities.

The writer is attempting to analyze individually each of the twelve reading readiness tests. An attempt will be made to include in the analysis a study of:

1. the research which justifies the use of these test items in predicting reading readiness,
2. the abilities which the test items attempt to measure, and
3. the nature of the test items by means of which these abilities are measured.

The information presented in this study has been secured from:

1. research studies on reading readiness,
2. the manuals of directions accompanying the tests, and
3. analysis of the nature of the tests themselves.

The twelve tests selected are those which have been published between 1929 and 1947. The writer secured specimen sets of the tests for study purposes from their respective publishers. With but one exception the tests examined are available to school teachers and administrators. The one exception is the New York Reading Readiness Inventory published by the Bureau

of Reference, Research and Statistics, New York City, New York. This test has been constructed and standardized for use in New York City schools only and is not for sale.

The following twelve reading readiness tests are considered in this study:

1. American School Reading Readiness Test published by Public School Publishing Company, Bloomington, Illinois.

2. Classification Test for Beginners in Reading published by Webster Publishing Company, St. Louis, Missouri.

3. Diagnostic Group Reading Readiness Test published by World Book Company, Yonkers-on-Hudson, New York.

4. Gates Reading Readiness Tests published by Bureau of Publications, Teachers College, Columbia University, New York.

5. Lee-Clark Reading Readiness Test published by California Test Bureau, Los Angeles, California.

6. Metropolitan Readiness Test published by World Book Company, Yonkers-on-Hudson, New York.

7. New York Reading Readiness Inventory published by Bureau of Reference, Research and Statistics, New York City, New York.

8. Reading Aptitude Tests published by Houghton Mifflin Company, Boston, Massachusetts.

9. Reading Readiness Test published by Educational Test Bureau, Minneapolis, Minnesota.

10. Sangren Information Tests for Young Children published by World Book Company, Yonkers-on-Hudson, New York.

11. Stevens Reading Readiness Test published by World Book Company, Yonkers-on-Hudson, New York.

12. Van Alstyne Picture Vocabulary Test For Preschool Children published by Public School Publishing Company, Bloomington, Illinois.

The writer has attempted to summarize previous research in reading readiness, to analyze each test individually, and to present a summary of findings. Where information has been secured from published material on the

construction of particular tests, the source is cited.

Definitions of terms.

Before measures of reading readiness can be analyzed, or reports on such an analysis be properly interpreted, it is advisable to determine what constitutes accepted criteria for any standardized test. Ross[1/] states, "In any satisfactory measuring instrument three qualities are indispensable. These are:

1. Validity
2. Reliability
3. Usability"

By validity is meant the degree to which the test or other measuring instrument measures what it claims to measure. In a word, validity means truthfulness

By reliability is meant the degree to which the test agrees with itself. In a word, reliability means consistency.

Usability is the degree to which the test or other instrument can be successfully employed by classroom teachers and school administrators without undue expenditure of time and energy. In a word, usability means practicability.

Whether or not a test is usable by average teachers in service and other persons whose technical training in measurement has been limited depends upon several factors of which the following are probably the most important.

1/ Ross, C. C., Measurement in Today's Schools, New York: Prentice-Hall, Inc., 1941, p. 72-98.

1. Ease of administration.

2. Ease of scoring.

3. Ease of interpretation and application.

4. Low cost.

5. Proper mechanical make-up.

Ross[1/] continues by defining standard tests, norms, raw score, I. Q., and M. A.

1. Standard tests.

   a. The contents of a standard test has been standardized. This means that each item has survived most careful scrutiny by a competent person, or more likely a group, and that its difficulty and value have been determined by rigid experimental processes that have eliminated its weaker features.

   b. Its method of administration has been standardized. This means that definite directions have been worked out, usually with appropriate time limits.

   c. The method of scoring has been standardized. This means that scoring keys have been prepared and that definite rules have been formulated for marking the papers and for determining the scores on each part and on the whole test.

   d. The process of interpretation has been standardized, at last in part. This means that tables of norms are now available for interpreting the various scores made on the test.

1/ Ibid. p. 292-298.

2. Norms.

Norms are not a measure of what ought to be but are merely a measure of what is, the status quo.

3. Raw score.

When a test proper has been marked according to instructions, the score obtained is called a raw score. A raw score by itself means very little. A derived score is a numerical description of a pupil's performance in terms of norms.

4. I. Q. and M. A.

The I. Q. is a measure of the rate of maturity of the child. The M. A. is a measure of the level or stage of maturity of the child.

In both cases rate and level are relative to the standardization group. If a child has matured rapidly, he is said to be bright; if he has matured slowly, he is said to be dull.

Greene, Jorgensen, and Gerberich[1/] give a comprehensive list of distinguishing characteristics of such instruments of measurement. They are:

1. Validity
2. Reliability
3. Adequacy
4. Objectivity
5. Administrability
6. Scorability
7. Comparability
8. Economy
9. Utility

This second list extends the analysis of standardized tests considerably.

1/ Greene, H. A., Jorgensen, A. N., and Gerberich, J. R., Measurement and Evaluation in the Elementary School, Longmans, Green and Company, New York: 1943, p. 52-71.

In the literature of research, the most frequently mentioned are validity, reliability, and comparability.

CHAPTER III

Analyses of the Tests

Analyses of the Tests

In this chapter the writer has attempted to analyze individually each of the twelve standardized reading readiness tests considered in this study. Four tables are also presented in an attempt to analyze the data found in all of the tests.

American School Reading Readiness Test Form A

by Robert V. Young, Willis E. Pratt, and Carroll Whitmer

Published and copyrighted, 1941, by Public School Publishing Company, Bloomington, Illinois.

Front of the test booklet

Name _____ Age: Yrs. _____ Mos. _____

School _____ Teacher _____ Date _____

Attended kindergarten: Yes ____ No ____ Glasses: Yes ____ No ____

English spoken in home by: both parents ____ one ____ neither ____

Physical defects (if any): _____

Speech defects (if any): _____

Pupil's Record		Raw Score	Weighted Score
Test I	Vocabulary	_____	_____
Test II	Discrimination of Letter Forms (Selection)	_____	_____
Test III	Discrimination of Letter Combinations	_____	_____
Test IV	Recognition of Words (Selection)	_____	_____
Test V	Recognition of Words (Matching)	_____	_____
Test VI	Discrimination of Geometric Forms	_____	_____
Test VII	Following Directions	_____	_____
Test VIII	Memory of Geometric Forms	_____	_____
	Total Weighted Score (Sum)		_____
	Predicted Reading Grade		_____

The test set includes a test booklet, a teacher's manual, a record chart, and an answer key.

Features of this test as outlined in the manual.[1/]

1. It is designed primarily as a survey test.
2. It is so constructed that it may be administered in its entirety on a group basis.
3. The construction of the test has been based on the predictive value of individual items.
4. Each test has been kept to a minimum in length to provide for the shortest possible time for administration.
5. Directions for administering the test are relatively simple and brief.
6. The test provides separate norms for kindergarten and non-kindergarten children.
7. By use of the multiple correlation technique, each part of the test has been weighted to insure the highest limit of predictability.
8. Scores predict probable reading success in terms of reading grade levels.

Construction of the American School Reading Readiness Test as stated in the manual.[2/]

1/ Young, Robert V., Pratt, Willis E., and Whitmer, Carroll A., Manual for the American School Reading Readiness Test, Bloomington, Illinois: Public School Publishing Company, 1941, p. 2.

2/ Ibid. p. 4.

To determine the effectiveness of items now used to predict readiness to read data were taken from Craig's master's thesis at the University of Pittsburgh.[1/] Items in the following four tests were analyzed for predictability based on the administration of the Gates Primary Reading Tests at the end of one semester:

1. Lee-Clark Reading Readiness Test,
2. Alice and Jerry Reading Readiness Test,
3. Metropolitan Readiness Test, and
4. Monroe Reading Aptitude Test.

Results are based on the study of 63 pupils entering first grade at the beginning of the school year.

"From this analysis,[2/] the items which were found to be most highly predictive were ones of visual discrimination, tests of the ability to see likenesses and differences in letter, word, and picture forms. Tests of vocabulary appear to have some predictive value when confined to measures of the recognition of single words or objects but become less predictive as oral instructions increase. Tests of information further testified that such tests have little predictive value. Auditory tests of both word discrimination and sound blending are found to be highly predictive, as are tests of the ability to copy figures from memory."

On the basis of these data, the following types of tests are included in the American School Reading Readiness Test:

1/ Craig, James C., The Predictive Value of Reading Readiness Tests, Master's Thesis, Pittsburg, Pennsylvania: University of Pittsburgh, 1937.

2/ Ibid. p. 4.

1. Tests of visual discrimination between letters, letter combinations or phonetic forms, word forms, and geometric forms.
2. A vocabulary test based upon recognition of simple objects.
3. A test to measure ability to copy simple geometric forms from memory.
4. A test to measure ability to follow directions.

Tests of auditory discrimination were rejected because of their dependence upon variations in administration.

Construction of the tests.[1/]

Two forms of a preliminary test were constructed, each including nine separate tests of the types mentioned above. Letter combinations used in the tests were measured against the most common letter combinations as found by Gates and words used were checked against a group of six series of widely used primary readers as well as the Gates Primary Word List and the Wheeler-Howe Word List. This test was then administered to 194 beginning pupils in the schools of Erie, Pennsylvania. The results were tabulated and final tests constructed. The final test consisted of 60 items and was administered to 1091 pupils in districts ranging in size from small rural to large urban schools.

Weighting of the sub-tests.

By means of a multiple correlation technique weights were found for each sub-test. These weights were multiplied by the scores received on each sub-test. Table I and Table II for converting raw scores into weighted scores are on page 11 and page 12 of the manual.

1/ Ibid. p. 4.

Norms.

Two sets of norms are given. One is for the kindergarten and another for the non-kindergarten children.

Validity.

By use of the multiple correlation technique, a coefficient of validity of .73 was found.

Reliability.

By application of the Spearman-Brown formula the reliability coefficient was .95.

General instructions for administration.

1. The test should be given at the beginning of the first grade.
2. Do not test children who are repeating the grade as results are not reliable.
3. Pupils need colored paper 8 inches by 5 inches to use as a marker.
4. Tests should be given with about 15 pupils in the group.
5. No time limits are given.

Specific directions for administration.

Test I

Children mark one picture out of 4. One sample is provided. Seven rows of pictures are given. The teacher pronounces the word.

Test II

The children mark 1 letter in a block (containing 4 letters) that is different. Three samples and 8 exercises are provided.

Test III

Children mark 2 letters in the box (containing 4 pairs of letters) that are like the pair above. Three samples and 8 exercises are provided.

Test IV

By comparing 2 words (one containing an extra letter) the children mark the extra letter. Two samples and 6 exercises are given.

Test V

Children mark 1 word out of 4 (inside a block) that is like the word above. One sample and 6 exercises are provided.

Test VI

Children mark 1 geometric form from 4 (inside a box) that is like the one outside. Three samples and 10 exercises are given.

Test VII

Each block contains 4 pictures exactly the same: a boy, girl, bird, ball, and book. For each of the 9 items in this sub-test different directions are given as: mark the bird or draw a line from the boy to the book. Again 3 practice items are given.

Test VIII

After looking at a geometric form in a box the children try to duplicate it from memory. This is repeated for 6 different forms.

Directions for scoring.

One point of credit is given for each item marked correctly. A scoring key is provided to assist in scoring. From Table I and Table II in the manual a weighted score is determined. Table I is used for children who have not attended kindergarten and Table II is for children who have attended kindergarten. A total weighted score attempts to predict the reading grade.

Classification Test for Beginners in Reading by

Clarence R. Stone, author of Silent and Oral Reading and Stone's Narrative Reading Tests, and

C. C. Grover, formerly Supervisor of Tests and Classification, Public Schools, Oakland, California.

Front of the test booklet.

Date _____ Name _____

Date of birth _____ Age _____

City _____ School _____

Test	Score	Examiner _____
I	_____	Classification of Child
II	_____	
Total	_____	

Test set includes test booklets and manual.

These authors have attempted to construct a classification test for beginners in reading which would be of value in indicating the facility with which the child will learn to read and the type of instruction needed. Three years of experimental work went into the construction of the test.

The first edition consisted of five parts and required approximately one hour for administration. This was given to 400 low first grade pupils at the beginning of the fall term and the results were analyzed. At the end

of the semester a reading test was given to those pupils. Correlations were computed between scores on the classification test and scores on the reading test and between scores on parts of the tests. The resulting study indicated that two parts of the test were useful in predicting reading success and so were retained. The authors make a note in the manual to the effect that the part of the original test that proved the least value in predicting success in reading was the one on understanding of spoken English.

The two parts selected were lengthened and revised and administered to 500 children the following year in California. Later the revised form was given to 300 low first grade children so selected that all types of pupils were included. At the close of that semester the Lee-Clark Reading Test was used and a further study made of the results. The next year, the present form was given to 563 pupils in St. Louis, Missouri, and Oakland and Berkeley, California.

Reliability of the test.

Two computations were made by the correlation of coefficients between even and odd numbered items on the test and correcting the value obtained by the Spearman-Brown Prophecy Formula. The results were .967 and .973 respectively which indicates a very high reliability.

Validity of the test.

In each of the three try-outs the correlation between the scores on the Classification Test and the scores made on a reading test at the end of the semester were compared with the correlations between scores on well-known and widely used primary group intelligence tests and scores on the

same reading test. Comparisons and studies were then made and in all cases the predictive value of the Classification Test was higher than that of the mental test.

General directions.

It is suggested in the manual[1/] that about 15 children may be tested at one time. They should be seated so as to avoid any copying from one another. Soft pencils or crayons should be provided for marking. A stop watch should be used as each test is timed to exactly seven minutes. Both parts of the test are given in one sitting. Each test is preceded by a practice exercise.

Test 1.

In this test the children underline one word from four that is like the one under the picture or in the box. Twenty-four items are included.

Test 2.

The children look at two words. If the second word is exactly like the first word a line is made under it. If the second word is different from the first word a line is made through it. Thirty-seven items are included.

Scoring the test.

Each item in the two parts is either correct or incorrect; there is no part credit. No scoring key is prepared. The manual suggests a test blank

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1/ Stone, Clarence R., Grover, C. C., Manual for Classification Test for Beginners in Reading, St. Louis, Missouri: Webster Publishing Company, 1933, p. 7.

be marked correctly with crayon and that the papers to be corrected be compared with this model. The maximum score on Test 1 is 24. The maximum score on Test 2 is 37.

Using the test results.

The manual suggests[1/] that the test results be classified into three groups. The children who make a score of 40 or above should become independent readers if provided with adequate reading activities. The children who make a score of 30-40 should make normal progress if their program includes easy beginning material and adequate repetitions. The children who make a score in the neighborhood of 25 or less will be considered in the lowest group. They may be or become the reading problems.

Two uses of test results are stated in the manual.[2/]

1. As a result of test scores children may be classified into groups for reading instruction.
2. As a result of test scores children with special difficulties may be screened from the group. These children may need individual instruction.

1/ Ibid. p. 2.

2/ Ibid. p. 4.

Diagnostic Group Reading Readiness Test by

Helen A. Murphy, Associate Professor of Education at Boston University, and

Donald D. Durrell, Dean, School of Education at Boston University.

Published by the World Book Company, Yonkers-on-Hudson, New York.

Front of the test booklet.

Name	Boy	Girl	Date of Testing	Yr.	Mo.	Day
Teacher	Grade	School	Date of Birth	Yr.	Mo.	Day
City	County	State	Pupil's Age	Yrs.	Mos.	

Practice Exercise

Test	Score	Percentile
1. Auditory		
2. Visual		
3. Learning Rate		
Total		

Test set includes test booklets, manual, five picture cards, twenty-six word cards, and twenty-six letter cards. Picture cards are provided for the toothbrush, iron, bracelet, machinery, and scissors. The teacher makes the flash cards for all ten words.

Information about the test.

Many children because of lack of ability to see and hear likenesses and differences in words fail to learn to read. Dr. Murphy has conducted a study[1/] that shows these abilities can be taught. The authors feel that such factors are most important in beginning reading and a testing program should include a diagnosis in these areas.

Necessary materials for giving the test.

1. Booklet for each child.
2. Flash cards and pictures for Learning Rate Test.
3. Flash cards for Visual Discrimination Test.
4. Pencils.
5. Colored markers.
6. Directions for administration of the test.

Auditory Test.

The examiner works a practice exercise with the children. The children are told they will play a game using their ears and eyes. They are asked what sound the train engine, wind, airplane, and drum make. They then listen to the examiner give the "f" sound and some words beginning with "f". The children repeat each word after the examiner for practice. The practice exercise consists of 12 pictures. The examiner tells the children to look at the first picture of a garden and listen. She asks if go and garden sound alike at the beginning. If the words sound alike at the beginning the

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1/ Murphy, Helen A., An Evaluation of the Effect of Specific Training in Auditory and Visual Discrimination on Beginning Reading, Unpublished Ed. D. Thesis, Boston: Boston University, 1943.

picture is marked with a cross. The remaining items are done likewise. Attention is called to the fact that no marking pattern is used such as two pictures in a row or three pictures but rather each is done separately and the children must listen carefully.

Test proper.

This procedure is continued for twelve rows of pictures with four pictures each. A sample row contains such pictures as a gate, boy, fish, key, and the corresponding words as: go-gate, beet-boy, father-fish, and father-key. In each case the children listen and if the beginning sounds are alike a cross is made on the picture.

The second test exercise is for final sounds. A practice row is worked with the children. The examiner pronounces two words. If the final sounds are alike a cross is made on the picture. The examiner continues with the test not helping the children and they work through nine rows of four pictures each using the same marking procedure.

The score is the right responses minus twice the number of wrong responses.

Visual Test.

Each child needs his copy of the test, a pencil, and a colored marker.

This test may be given immediately after the auditory test or at another time. The examiner works two practice exercises with the children. She holds up a card and asks the children to "watch". The children find the letter or word on the paper that looks like the one on the card and circles it. The correct choice is one from five printed on the page. The time

exposure of the card is five seconds only. As each new card is presented the children are told to "watch". After the first two practice exercises the children continue using the same procedure through the remaining twenty-four items. The exercises are of graded difficulty starting with single letters and ending with seven letter words.

The following are the key letters and words: s, e, m, t, w, c, a, l, z, h, k, y, x, v, o, u, n, j, i, f, g, r, d, q, p, b, all, on, boy, man, saw, sat, black, fern, first, nose, spice, drop, jump, alone, cleat, world, foolish, testify, part, quiver, digress, cure, reform, curtain, shovel, convict.

The score is the number of correct items.

Learning Rate Test.

The class is divided into three groups. The examiner begins teaching the very first part of the morning and teaches each group for 20 minutes. The words should of course be introduced in the order listed on the test. The ten words should be presented in the first ten minutes of the testing period, and the second ten minutes of the period should be devoted to repetition.

The following directions were taken from the manual and they must be followed very carefully by the examiner.[1/]

Show the picture of the toothbrush. Ask "What is this? How many of you have toothbrushes of your own? What do you do with them?" Expose the card with the word toothbrush on it and say, "This word says toothbrush."

1/ Murphy, Helen A. and Durrell, Donald D., Manual for Diagnostic Group Reading Readiness Test, Yonkers-on-Hudson, New York: World Book Company, 1947.

Go around the group having each child say the word as he frames it with his hands. Say, "I'll write the word toothbrush on the board." Write the word and have a child frame it and read it.

Show the picture of the bracelet. Say, "What is this?" "Has anyone a bracelet?" Note any child having one. Expose the card with the word bracelet on it, and continue the same as with the word toothbrush. After each new word is presented, ask different children to find again the words already on the board.

Expose the card with celery on it. Say, "I haven't a picture of this, but I'll tell you what it says -- celery. Do you know what celery is?" Enrich meaning further.

"Listen and see if you can finish this sentence. When we stand tall, we don't lean _____ the desk. This card says against."

Show the picture of the iron and say, "Do you know what this is a picture of? Yes, it is an iron. This card says, iron."

Show the picture of machinery and say, "This is machinery. What is machinery used for? This card says machinery."

"How many have a handkerchief? We must be sure to always have a handkerchief when we come to school. This card says handkerchief."

"We do not have naughty children in school. Do you know what naughty means? This card says naughty."

Show the picture of the scissors and say, "What are these? Do you like to cut pictures? We must be very careful when we use scissors."

"Do you like chocolates? What are they? What else besides candy has chocolate in it?"

After all the words have been introduced, have different children match the cards to the words on the board and read them as they find them. Give several practices like this and each time tell the word on the card as you give it to the children. Then call on individual children to find the words on the board as you call for them. Next, point to words on the board and ask different children what they say. Have each child bring his word to you as you call for it. Finally, test the whole group with the flash cards, having them read the words in concert. This whole lesson should be completed in twenty minutes, the first ten minutes to be used in introducing the words, the second ten minutes in practice.

Scoring the Learning Rate Test.

Test each child on the recognition of the words one hour after the teaching period. Tell him any word he fails on or which he hesitates for more than five seconds. Repeat this flash card test before the close of the morning session and again before the close of the afternoon session. Record the words correct each time in the space provided in the test booklet. The final score is the child's learning rate on the words he can be expected to master in one day.

Gates Reading Readiness Test by

Arthur I. Gates, Professor of Education, Teachers College, Columbia University, New York.

Published by the Bureau of Publications, Teachers College, Columbia University, New York.

Front of the test booklet.

Pupil's name _____ Age ____ Birthday _____

School _____ Grade _____ Date _____

Test	Raw Score	Percentile Score
I. Picture Directions	_____	_____
II Word Matching	_____	_____
III Word-Card Matching	_____	_____
IV Rhyming	_____	_____
V Letters and Numbers	_____	_____
Average Percentile Score	_____	_____

Other Tests and Records

I Mental Age	_____	_____
II Chronological Age	_____	_____
III Vision	_____	_____
IV Hearing	_____	_____

Recommendations

The test set includes test booklets and manual of directions.

Nature of the tests.

These tests were constructed to measure readiness for reading, to predict the rate of development of reading ability, and to diagnose the pupil's status and thus reveal his needs. A composite average of the scores from the several sub-tests is the best score for determining the stage of readiness. It gives only general information and is not diagnostic. For each child the teacher may obtain a score for each of the abilities which may be directly compared with the others. This makes it possible for her to adjust her instruction to the abilities and needs of the individual child.

How the several tests were selected.

These tests were selected after a series of investigations, extending over several years. In one study[1/] nearly 100 different tests and ratings were given and tested to determine which were the most useful for diagnosing reading readiness. The most promising abilities shown in this and other studies were then embodied in tests of the type most likely to work well, and tried out on the entire population of children entering school in a small city. After careful study a revised test was developed and tried in another group of schools during the 1938-39 school year. The present test is based upon these and other studies.

1/ Gates, Arthur I., Bond, Guy L., and Russell, David H., Methods of Determining Reading Readiness, New York: Columbia University, Bureau of Publications, 1939.

Description of the individual sub-tests.

Test I Picture Directions.

This test employs three pictures in the test booklet. The first is a full-page line drawing of a farm scene, the second is a half-page drawing of a town scene, and the third is a half-page drawing of the interior of a general merchandise store. The examiner makes oral statements about situations or objects in the picture and requests the pupils to carry out certain instructions by making crosses or other simple marks on the picture. Several abilities are tested as: ability to listen to what the examiner is saying; ability to understand what is said; ability to remember for a short time what is said; ability to group and make use of various important everyday words and concepts concerning the country, the town, and a store; ability to interpret illustrations such as are found in beginning books; and ability to employ all the above in executing the directions. It is advisable to give this test to a small group of four to ten pupils.

Test II Word Matching.

"All studies show that the more advanced a pupil is in familiarity with printed words, the more nearly ready he is for reading.[1/] There are different stages in advancement in word familiarity or word recognition among children who cannot read a single word. This test was developed to be useful for all children. The test score is symptomatic of the child's knowledge and of familiarity with printed words. It reveals the status of his word-perception knowledge and skill."

1/ Gates, Arthur I., Manual of Directions for Gates Reading Readiness Tests, New York: Columbia University, Bureau of Publications, 1939, p.4.

This test consists of eighteen boxes each containing four words, two of which are alike. The child is told to draw a line connecting the two words which are just alike. The group should be small and the children work down the columns. There is no time limit for this test.

Test III Word-Card Matching.

This is a test of word perception. A set of teacher made cards, 11 inches by 9 inches, contain the key words lettered in print, exactly like the words on the test sheet. In this test the examiner conducts a sort of class card or flash card study. She shows a word card for five seconds and asks the pupil to find the same word on his test paper where it appears in primer book type with usually three other words.

The cards contain the following words: or, me, rat, grass, place, breakfast, noise, kid, owl, sleep, us, an, dig, star, red, grandpa, winter, make, them, which. The cards should be numbered and be presented in order.

Test IV Rhyming Words.

This test makes use of pictures and spoken words. The examiner names the pictures in the row. She then pronounces a word and the child circles the picture that rhymes with that word. There are fourteen rows of pictures, four pictures in each row. The following is a list of the words for each picture and the key word for each series.

1.	hat	dog	cup	horse	pup
2.	flag	pig	man	box	big
3.	bird	kite	cat	bell	tell
4.	mouse	bag	bone	sled	stone
5.	gun	hen	key	nest	fun
6.	cake	bear	fish	saw	dish
7.	face	doll	ring	clock	flock
8.	cat	boat	bird	dog	log
9.	saw	hat	mouse	cake	house
10.	book	peach	dish	pin	look
11.	tree	top	mop	bear	hair
12.	horse	mouse	horn	house	barn
13.	broom	bowl	bread	bird	whole
14.	ring	bird	chicken	rabbit	habit

Test V Reading Letters and Numbers.

This test must be conducted individually. It measures the child's familiarity with the printed letters of the alphabet and the numbers from 0 through 9. It enables the teacher to find out exactly what letters and numbers the pupil can recognize. The three sets contain large case letters, small case letters, and numbers all in mixed order. The child names the letters or numbers, whichever the case may be, as the examiner points to them.

The time to give the tests.

Reading readiness tests are usually given during the second or third week after children enter the first grade. The Gates Reading Readiness Tests may be repeated after an interval of a month. This is desirable especially

for those children whose initial scores were low, as a means of measuring progress and adjusting instruction to individual needs. If the tests are to be repeated, the children should not be allowed at any time to see them or to study their responses to the first test.

The most reliable and informative results are obtained by giving all five tests. Useful results can be obtained, however, with less than total score. Which tests can be omitted with least loss depend somewhat on the status of the pupil. In test try-out the rhyming test showed the greatest fluctuations in predictive value. After experience in using the tests, the teacher will be able to tell which ones are most and least valuable for her group.

Instead of definitely eliminating any test, it is recommended in the manual that the teacher give as many as she can at the first testing period, and save the others until later. For example, Tests I, II, and V are suggested for a first period. Tests III and IV may be given at a later time.

The manual gives descriptions of each sub-test, general directions, and carefully explained specific directions for each sub-test.

Scoring the test papers.

Test I Picture Directions.

To score this test the examiner must make proper marks on the pictures as the directions are read. Marks may be made on the pupil's test sheet to determine his score. The highest possible score is 36 points and is divided as follows: farm picture 19 points, town picture 7 points, and store picture 10 points.

Test II Word Matching.

Three different methods of scoring this paper may be used. One consists in making up a key page and simply comparing the pupil's page with this and putting a red check or cross on any exercise that is wrong. The second is to make a key out of tissue paper. Place the tissue paper over the key page which has been made and mark in the lines between the two identical words. When this paper is properly placed over the pupil's, one can see how many lines fail to coincide. This will be the number of exercises wrong which can be subtracted from the total number of exercises on the page. The final score or number right is written on the test page. A third method is to make a key by cutting out a piece of cardboard or a page from a copy of the test itself slits through which the lines between the two identical words may be seen. This cardboard or test sheet is then placed over the pupil's paper. Whenever the pupil has connected the two proper words, his mark will appear in the slit. The score is the number correct and can be recorded on the test page. The first demonstration exercise is counted making the highest possible score 18.

Test III Word-Card Matching.

This test may be scored by any of the methods used in the preceding test. The score is the total number of exercises correct. The first demonstration exercise is counted in the score. The highest possible score is 20.

Test IV Rhyming.

The score for this test is the total number of exercises correct. One point is given for each one done correctly. This test can be scored by comparing sheets, superimposing a translucent marked sheet over the pupil's paper, or cutting out of cardboard, or from a page of the test itself, holes to reveal the proper pictures. Including the first demonstration exercise the highest possible score is 14.

Test V Letters and Numbers.

The score is the total number of letters and numbers correct. The highest possible score is 62.

Using the percentile score and norms.

After the examiner has scored the tests, as explained above, the result is the raw score. These raw scores should then be changed to percentile scores by using the tables on pages 30 and 31 of the manual. A pupil's percentile score on one test may then be compared with his scores on the other tests or with those of other pupils.

The percentile scores are based upon the results of tests given to children in the process of standardizing the test scores. Norms are provided for two groups: a kindergarten group and a first grade group.

Using the test scores as a guide in instruction.

Each test in this group tests abilities that the author feels are of great importance in learning to read. Each of these abilities can be improved by instruction. If a pupil gets a low percentile in a test, he should

be given instruction which will increase the abilities measured by the test. The lower the score, the greater the need for help. Suggestions are given in the manual[1/] in each of the below areas:

1. Increasing abilities measured by the picture-directions test.
2. Increasing interest and ability in understanding stories.
3. Improving abilities to recognize words.
4. Improving rhyming and other forms of word-sound perception.
5. Learning the letters and numbers.

Using composite scores for predicting reading readiness.

The composite or average percentile score is used to decide how advanced a pupil is in readiness to learn to read and how successful and rapid his progress is likely to be. This composite score is simply the average or arithmetical mean of the percentile scores of the several tests.

Suggestions are also given in the manual[2/] as to what progress may be expected of children falling into various percentile areas. The manual also stresses, however, that it is impossible to draw a sharp line between those who are ready and those who are not ready to read. The teacher must study individual cases. Suggestions are made for grouping within a class based upon individual percentile scores.

Reliability.

The reliability coefficients were determined by computing the split-halves method and applying the Spearman-Brown formula to a population of

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1/ Ibid. p. 20-23.

2/ Ibid. p. 23-30.

174 New York City children. The results were as follows:

Test I	.84
Test II	.78
Test III	.82
Test IV	.84
Test V	.96
Whole Test	.974

Lee-Clark Reading Readiness Test

Published by California Test Bureau, 5916 Hollywood Boulevard, Los Angeles 28, California.

Revised 1943 by J. Murray Lee, Dean, School of Education, State College of Washington, and

Willis W. Clark, Director of Research and Guidance, Los Angeles County Schools.

Front of test booklet

Name _____ Grade _____ Sex Boy ____ Girl ____

School _____ Age _____ Last Birthday _____

Teacher _____ Date _____

The test set contains test booklets and manual of directions.

Purpose of this test as stated in the manual.[1/]

The Lee-Clark Reading Readiness Test is designed to assist teachers in recognizing or identifying children who are ready to learn to read. Some first grade children are ready to begin a reading program, others need to have a type of developmental program, and still others need a semester or a year more of maturation. The purpose of this test is to aid in identification of these various types of children. It should by no means be the sole measure or basis for decision.

1/ Lee, J. Murray, and Clark, Willis W., Manual of the Lee-Clark Reading Readiness Test, Los Angeles, California: California Test Bureau, revised 1943.

Another need which the test fulfils is that the results are easily explainable to parents. A parent may be told that a child has been given a test, the results of which tell whether or not he is ready to begin to read. The results may indicate that a child would be much better placed in a pre-primary or transition group.

The original edition of the Lee-Clark Reading Readiness Test was published in 1931. It was among the first of the group of tests prepared to predict reading readiness. The revised edition is based upon the original edition and the research of the authors and others which have taken place in recent years.

The nature of the test.

The sub-tests have been selected for their value in predicting a child's ability to read. The validity of this test can only be determined by the extent to which the test results at the beginning of the term predict the reading ability of the child at the end of the term or year. The size of the correlation is thus the basis for judging the validity of the test.

The manual states[1/] that Test I and Test II measure the ability of a child to recognize similarities and differences in letter forms. Test III measures vocabulary and concepts of the child. Test IV measures the ability of a child to recognize similarities and differences in letter and word formation from the simplest type of gross differences to complex and minor differences.

1/ Ibid. p. 2

Reliability of the test.

The reliability of this test was determined for 170 entering first grade pupils by the split-halves method and corrected for range. The results obtained were as follows:

I.	Letter Symbols	.867
II.	Concepts	.832
III.	Word Symbols	.936
Total for the test		.925

Validity of the test.

"The Lee-Clark Reading Readiness Test has been widely used and found to be most helpful in predicting probable success in first-grade reading development. The original edition was found to predict reading ability better than the average mental age obtained by using two widely-used group intelligence tests."[1/]

The correlation of Lee-Clark Reading Readiness Test scores with Lee-Clark Reading Tests: Primer was found to be .67 in two first grades containing 72 pupils. In another group of 374 pupils in which the ability was above average the correlation was found to be .432. The correlation between the Lee-Clark Reading Readiness Test and the California Test of Mental Maturity, Pre-Primary Series was found to be .65 (N-377).

1/ Ibid. p. 2.

Directions for giving the test.

1. Have only 10 to 15 pupils in the group when you are testing. If children are very immature, they should be tested in small groups of 6 to 10.
2. It is better to have someone in the room to help in giving the test.
3. It is possible to give only the first two tests at a sitting if the pupils' interest is lagging. The last two tests should be given later the same day.
4. The information on the front page is to be filled in by the teacher.
5. See that each child is supplied with a large pencil or crayons.
6. Pass out the booklets, being sure that each child has his own.
7. Also furnish each child with a plain sheet of paper (colored if available) to be used as a marker.
8. The tests are to be given exactly according to directions. This is absolutely necessary if the results are to be of value.
9. Be sure that each child has understood the directions and has each sample marked correctly. If he does not, help him with the samples. After the test proper is started, give no help and repeat no directions.
10. Be sure that the children understand what you mean when you say "draw a line". Give the directions slowly and clearly.
11. Practice giving the tests at least once before giving them to a group.

12. The examiner's watch should have a second hand, as two of the tests have two minute time limits - Test I and Test II.

Test I.

The child draws a line from one letter in a column to the same letter in a second column: s, m, u, and g are given for practice. The letters s, w, a, z, t, y, e, n, f, i, d, and b are given in the exercise. Small case letters are used. This sub-test is timed and exactly 2 minutes are allowed.

Test II.

The child draws a line through one letter out of four that is not like the rest, as: X X R X. In this exercise three different sizes of large case letters are used. Twelve different sets of letters are given. The child uses his marker to keep the place. Allow exactly 2 minutes time. If the test is given in two sittings, it should be stopped here.

Test III.

The child uses his marker under a row of pictures. He is told to mark two pictures as: the cat and the boy. This is the practice exercise. The examiner continues to give directions which become more difficult as: mark the boat which is empty and the man which is farthest away. There are twenty items in this exercise.

Test IV.

The child uses his marker to go down the page. He marks the letter or word in the row which is just like the first one. There is one practice item and there are twenty test items.

Directions for scoring.

In scoring this test the examiner is told to mark on an unused copy of the test booklet according to the general scoring directions mentioned and to follow these rules:

1. Each correct response counts one point. No part credits are allowed.
2. Consider the pupil's intent if it can be determined. If doubtful, allow no credit.
3. If two or more items are marked in Tests II, III, or IV allow no credit for the test numbers thus marked unless it is obvious that the pupil has intended to make a correction.

The maximum scores for each test are as follows:

Test I	12
Test II	12
Test III	20
Test IV	20
Total	64

The record of the number of correct responses is made on the front of the test booklet.

Directions for interpreting and using results.

The manual states[1] that each school should make a study of the results for its own particular situation. The interpretation of the test scores which follow are based upon study in a number of school systems.

The following table[2] is taken from the manual and provides a classification of test scores for pupils examined at the beginning of the school term. These data furnish information showing the scores of pupils in the lowest twenty per cent (of a composite population), the next thirty per cent, and the next highest thirty per cent, and the highest twenty per cent.

Classification of Scores by Entering First-Grade Pupils

(Showing per cent falling in four groups)

	Low 20%	Low Average 30%	High Average 30%	High 20%
Test I	0-13	14-18	19-22	23-24
Test II	0-9	10-14	15-17	18-20
Test III	0-8	9-13	14-17	18-20
Total	0-31	32-47	48-56	57-64

The expectancy of reading success or the length of desirable delay in induction into more formal reading is interpreted in the manual[3] as follows:

1/ Ibid. p. 4.

2/ Ibid. p. 5.

3/ Ibid. p. 5.

Gr. Pl.	Score	Expectation of Success	Delay Indicated
1.5 - 1.9 +	56-64	Excellent	None
1.0 - 1.4	50-55	Good	None
0.5 - 0.9	40-49	Fair	1 to 5 mos.
0.1 - 0.4	32-39	Poor	6 to 10 mos.
0.0	31 and below	Very poor	1 yr. or more

The authors of this test feel that special attention needs to be given to those pupils who score high on one part and low on another part of the test. A low score on Test II may indicate a foreign language handicap. A low score on Test I and III may indicate that a pupil's reading had better be delayed somewhat until such abilities have developed. The authors also feel that low scores in these tests are probably due to a lack of maturity and indicate the probable desirability of a delay in induction into the formal reading program.

Supplementary information of value in determining reading readiness as well as a bibliography are included in the manual[1/] of directions.

1/ Ibid. p. 5-7.

Metropolitan Readiness Tests for Kindergarten and Grade I by Gertrude H. Hildreth, Ph.D., Associate in Research and Psychologist, The Lincoln School of Teachers College, Columbia University, New York, and Nellie L. Griffiths, M.A., Professor of Education and Supervisor of Elementary School, North Texas State Teachers College, Denton, Texas. Published by the World Book Company, Yonkers-on-Hudson, New York.

Front of the test booklet

Name_____ Date_____

Grade_____ Age Yrs._____ Mos._____ Teacher_____

School_____ City_____ State_____

	Test	Score
I.	Similarities	_____
II.	Copying	_____
III.	Vocabulary	_____
IV.	Sentences	_____
V.	Numbers	_____
VI.	Information	_____
	Total	_____
	P. R.	_____

The test set includes test folder, manual of directions with key (revised) and class record sheet.

Purpose of this test as stated in the manual.[1/]

The Metropolitan Readiness Tests have been devised to determine the extent to which pupils are ready to learn first-grade skill, and to provide an analysis of difficulties revealed.

Illustrations of differences in mental maturity and experience among first-grade pupils can be found in abundance in the Metropolitan Readiness Tests. In detecting similarities and differences in pictures and symbols, the most capable child made a perfect score of 23 points and the least capable was unable to make any score at all. In copying drawings, a task which would seem to be no more difficult for one child than for another, the most capable child in a group of forty first-grade children made almost perfect copies of all items, whereas the least capable made only a few random an unintelligible marks on paper.

In preparing the readiness tests a tabulation was first made of all indications of maturity shown by first-grade children. These proved to be: perceptual and reasoning abilities, language usage, motor control, ability to use pencils and crayons in drawing, number information, and general knowledge.

This test includes some very difficult items as well as some very easy ones. No child is expected to make a perfect score and practically every child is able to make some score.

It is desirable that such a test as this should make considerable demand on the attention span and listening capacities of young children,

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1/ Hildreth, Gertrude H., and Griffiths, Nettie L., Manual for Metropolitan Readiness Tests, Yonkers-on-Hudson, New York: World Book Company, 1939.

for these traits will have a very decided influence on the child's learning process. Sustained attention is necessary for understanding and following directions, and for studying and remembering. Naturally the length of time children can normally give attention without showing fatigue or disinterest varies with the maturity of the child.

After preparation these tests were given a try-out in mimeographed form before the final edition was published. The mimeographed form was administered as a group test to pupils in both public and private kindergartens at the close of the school year and to pupils in the first grade at the beginning of the year. The tests were then revised and the directions improved. A second revision of the test was prepared and administered to 1500 children in fifteen school systems in seven states. As many of the children as possible were also given reading and arithmetic examinations at the end of the year to obtain data for evaluating the prognostic capacity of the readiness test. This second edition was revised through the omission of much of the number material, changing the form of some test items, and time limits. The final form when properly administered fills satisfactorily the purpose for which the test was prepared. The percentile scores for the test are based upon the results of 10,449 tests given to private and public school children.

Test proper.

The test consists of six parts.

Test I.

The first test is one of perception, involving recognition of similarities. It consists of twenty-three items ranged in order of difficulty and including both pictorial material and symbols. The children are told to mark (draw a line through) the pairs which are different. On the booklet cover seven samples are given. They include pictures, symbols, numbers, letters, and words. The children are told to turn the page and work the exercise by themselves. When virtually all have finished the teacher tells the children to put their pencil (or crayon) down.

Test II.

This test is a second perception test, involving copying of eleven figures. "This type of test[1] has proved to be highly diagnostic of mental maturity in young children, and several items are comparable with those contained in the Binet series. The factor of reversals, which enters into a number of the items, has been found to be correlated with lack of experience and with immaturity of perceptual abilities in young children."

The children are told to look at the figure (or symbol) in the box and draw another just like it. A sample item is worked with the children. This is a timed test and exactly five minutes is allowed. The booklets are collected at the end of this test.

Tests III and IV.

These tests are designed as measures of vocabulary. They consist

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1/ Ibid. p. 4.

respectively of nineteen and fifteen sets of rows of four pictures each. In Test III the children select the picture that illustrates the word the examiner names. This is a test of understanding or comprehension of language and not a test of the child's language usage. Test IV is similar in organization, but requires the child to comprehend phrases and sentences instead of individual words. Extra conversation, not absolutely necessary for the location of the right picture by the child, is added to make the test one of more sustained attention comparable to the attention span required in listening to stories. These tests are administered in the second testing period. In each of these tests two sample exercises are worked with the children and fifteen seconds are allowed for marking. Booklets are again collected at the end of Test IV.

A supplement to these perception tests is a test of the drawing of a man which may be scored according to the Goodenough[1/] directions or by directions in the key. Another test is to ask the children to write their names.

Test V.

This test attempts to measure number knowledge. By means of forty items it measures achievement in number vocabulary, counting, ordinal numbers, recognition of written numbers, writing numbers, interpreting number symbols, the meaning of number terms, the meaning of fractional parts, recognition of forms, telling time, and the use of numbers in simple problems. This test is administered in the third testing period. The children are

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1/ Goodenough, E. L., Measurement of Intelligence by Drawings, Yonkers-on-Hudson, New York: World Book Company.

told to mark objects or symbols from the above types. At the end of this test the booklets are again collected.

Test VI.

This test attempts to test common knowledge by means of a multiple-choice picture test of sixteen items. The test is given in the fourth testing period. The children are required to select from a row of four pictures the one that satisfies the examiner's description. In this test fifteen seconds are allowed to mark the item.

Test VII.

This test consists of the drawing of a man. A space is provided on the last page of the test booklet. The children are told to draw a man and ten minutes is allowed. The words boy, girl, woman or doll may be used instead of man.

The final step is to have the children write their names on the front page in the blank space provided there.

Time involved.

Approximately seventy minutes is required for the whole test for children who work with average speed. This time should be broken up into at least four periods. Tests I and II should be given in one period; Tests III and IV in another period; Test V in another; and Test VI in still another.

Directions for scoring.

The key for scoring is on pages 11-14 of the manual. It may be cut and folded into strips. The samples are not to be scored (the box on the front page and the first two rows marked a and b on page 4). Each item counts one point if correct and zero if incorrect. The score is the number of correct answers except for Test I where it is the number of correct answers minus the number of wrong answers. The total possible scores are: 23 points for Test I, 11 points for Test II, 19 points for Test III, 15 points for Test IV, 40 points for Test V, and 16 points for Test VI. Total possible score is 124.

Detailed directions for scoring Test VII are given on pages 13 and 14 of the key. A score of 6 points may be taken as the norm for this test for all pupils entering Grade 1. Since Test VII is optional, its score should not be included in the total score when norm tables are used.

Class record sheet.

If a class record is desired it may be done on the blank provided in the test set. Columns are ruled for name, age, M.A., I.Q., individual test scores, total score and percentile rank.

Use of scores in prognosis.

By comparing actual scores with the charts on page 20 of the manual it is possible to estimate grade status.[1/] If we wish to exclude from first grade all pupils who do not stand one chance in four of attaining a grade status of 1.6 by the end of the year we should exclude all pupils making

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1/ Ibid. p. 20.

scores less than 40 in the Readiness Test.

Choice of critical score.

Table 6 on page 21 of the manual attempts to show total score in the readiness tests which must be made at the beginning of first grade in order to have one chance in four or one chance in two of attaining a given grade status at the end of first grade. It may be read as follows: In order to have once chance in four of attaining a grade status of 1.0 at the end of the first grade, a pupil must be able to make a total score of at least 5 in the Readiness Tests at the beginning of the first grade; in order to have one chance of two of attaining a grade status of 1.0, a pupil must be able to make a score of at least 22.

Suggestions for provision for individual differences are included in the manual as well as a bibliography on reading readiness.[1/]

1/ Ibid. p. 22-24.

New York Reading Readiness Inventory

Board of Education of the City of New York, Bureau of Reference, Research and Statistics.

Front of test booklet.

Pupil's name _____ Date of Birth _____

School _____ Class _____ Examiner _____ Date _____

I.Q. _____ Test _____ Date _____ C.A. _____ M.A. _____

Terms in school _____

Languages in the home _____

Dominance: Hand _____ Eye _____

General Health _____

Defects: Visual _____ Hearing _____ Speech _____

Profile of abilities measured

1. Concepts _____
2. Following directions _____
3. Story comprehension _____
4. Word matching _____
5. Copying _____

The test set includes test booklets and manual of directions Form A and Form B.

Purpose of this test as stated in the manual.[1/]

The New York Reading Readiness Inventory enables the teacher of first year classes to estimate the social maturity of the children and to measure specific readiness abilities. From test results the teacher may also diagnose strengths and weaknesses in the abilities involved in learning to read.

Description of the inventory.

This test consists of five sub-tests and a Graphic Summary of Observations. There are two parallel forms, A and B.

Sub-tests 1, 2, and 3 measure concepts, the ability to follow directions, story comprehension, and meaning aspects of reading readiness. Sub-tests 4 and 5 measure ability to match words and to copy symbols.

Test 1 Concepts.

Three methods of measuring concepts are used. The pupil is asked:

1. to put a mark on one specific picture in a row of 5 pictures,
2. to mark the picture in the row that does not belong with the others, and
3. to mark specific parts of given pictures.

Test 2 Following Directions.

In this test a pupil is directed to make a cross, a line, or a ring

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1/ Board of Education of the City of New York, Manual of Directions for the New York Reading Readiness Inventory, New York: Bureau of Reference, Research and Statistics, 1944.

around pictures or objects indicated by the examiner. Several abilities are measured such as ability to listen, to understand words and concepts, to remember, to interpret illustrations, and to execute directions.

Test 3 Story Comprehension.

Here several short stories and one long story are read by the teacher. The pupils show their ability to comprehend by marking pictures in response to specific questions about the stories.

Test 4 Word Matching.

The pupil sees a picture on a page with a word beside it. He is told what the word is and asked to find it every time he sees it in the story below the picture.

Test 5 Copying.

In this test the pupil is given 20 numbers and letters to copy. Ocular-motor ability and to some extent reversal tendencies are measured by this test.

The Graphic Summary of Observations.

In making a comprehensive study of her pupils the teacher should also consider the following:

1. personal independence,
2. social acceptability,
3. motor development,
4. language and speech development, and
5. aesthetic expression.

This rating scale has been developed in order to provide supplemental data. To rate a pupil the teacher places a check on the dotted lines after those statements which characterize his development. For each category or aspect of growth she will decide in which column, (left, middle, or right) the ratings are most predominant. She will then check the box in that column because the statements under it best describe the child. A check in the middle box for any of the five categories indicates normal development in that characteristic of child growth, a check in the left-hand column box may be interpreted as showing development below normal, while a check in the right-hand column box indicates that the child shows development in advance of what is normally expected of pupils entering first grade. Below the scale a space has been provided for the entry of additional pertinent data about the pupil. Here the teacher may note any outstanding personality characteristics and related home, school, or personal problems which seem significant for the all-round study of the child.

General procedure.

This test may be administered to first year pupils, except those with serious language handicaps, as soon as they are able to handle crayons and follow simple directions. It is recommended, however, that the test be given the fourth week of the school term.

An Oral Pretest (described later) should be given those children who come from foreign speaking homes before the Inventory is administered.

General directions.

1. The tests should be administered to groups of from 12 to 15 children.
2. Each child should have a test booklet, red crayon, an oak tag marker 9 inches by 3 inches, and a pencil (for Test 5).
3. For the complete test, two sittings of approximately 40 minutes each will be required. At the first sitting, Test 1 and Test 2 should be administered; at the second sitting, Tests 3 through 5.
4. Time Test 4 and Test 5 with a stop watch. One minute for each box or row.

Directions for Form A and Form B.

1. Examiner's remarks are printed in heavy type and are very clear.
2. Necessary sample exercises are provided.
3. In some cases duplicate exercises are printed in Forms A and B. In most cases, however, the pictures and stories and printed symbols differ but are of equal difficulty.

Scoring the tests.

1. Separate keys are provided for Form A and Form B.
2. In sub-tests 1, 2, 3, and 5 the score is the number right. In sub-test 4 the score is the sum of the scores of the eight boxes. The score for each box is obtained by subtracting the number of wrong responses from the number right.

The total raw score is the sum of the scores of the five sub-tests. The scorer marks the test booklet in accordance with the tables provided for each form of the test. This marked copy should be used for scoring. It is suggested that correct responses be marked with a check and incorrect responses with a cross. When the accurate score for each sub-test is obtained it should be transferred to the front page of the booklet.

Standardization and Norms.

These tests were administered to two groups of beginning first grade pupils during the fourth week of the school term. The total number of New York schools cooperating in the standardization was 123. Form A was administered in the fourth week of the fall term in October 1943 and in the fourth week of February 1944 to a total of 5,936 first term pupils. Form B was given in February 1944 to a total of 3,191 pupils. From these samplings raw scores were compiled and percentile norms were computed. These are available for use and are on page 36 and page 37 in the manual.[1/] A given child's raw score on the test may be converted into corresponding percentile scores by referring to these tables.

Reliability.

By reliability of a test we mean the accuracy with which the test measures what it is supposed to measure. The reliability of these tests was determined by correlating the results of the two forms. A table on page 28

1/ Ibid. p. 36-37.

of the manual indicates the reliability coefficients of each of the sub-tests. The total test gives a reliability coefficient of .97 for Forms A and B.[1/]

Validity.

The term validity may be defined as an expression of the degree to which a meauring instrument measures the things it purports to measure. These test exercises purport to measure skills and abilities related mainly to the success in oculo-motor skills and comprehension or meaning. As a check on validity of individual items, the bi-serial r of each item with the total test score was computed. Any items which had a bi-serial r of .35 or less were discarded in the final edition.

Thus, from the analysis of findings of research studies on abilities related to reading readiness, the calculation of the bi-serial r for each item of the test with the total test score, and the studies of the predictive value of the total score as judged by level of reading at the end of the first term, and the achievement in the reading test at the end of the second term, it is concluded that the test provides a valid measure of the child's probable success in learning to read.[2/]

The manual[3/] also contains information on how to interpret test scores for a group or for individuals. There are suggestions for grouping and organizing classes as well as exercises recommended for use on low scores received on individual tests.

1/ Ibid. p. 28.

2/ Ibid. p. 29.

3/ Ibid. p. 30-51.

In measuring growth the manual suggests that either form may be given as the initial test. The alternate form may be used as a retest after a period of three months, six months, a year, or two years. Differences in percentile scores for individuals will indicate growth in reading readiness in general and in the special abilities and skills measured by the sub-tests.

The Oral Pretest: Picture Vocabulary.

This is an individual test of a child's English speaking vocabulary. It consists of twenty pictures of objects which the child is asked to name. The vocabulary is graded in difficulty in accordance with an experimental tryout with first year pupils. The Pretest is useful as a screening device in schools where there are bilingual or foreign language speaking children as it affords a measure of ascertaining their English-speaking vocabulary.

In administering this test the examiner uses page 40 from the manual. In testing, the examiner points to each of the twenty pictures and asks the child to name it. The scoring key is on page 39 of the manual. If a score of below 10 is obtained, the Inventory should not be administered until his ability to understand English has improved.

Reading Aptitude Tests - Primary Form by

Marion Monroe, formerly Specialist in Remedial Instruction, Pittsburgh Public Schools.

Published by Houghton Mifflin Company, Boston, Massachusetts.

Front of test booklet.

Name_____ Birthdate_____ Age_____ Date_____

Grade_____ School_____ Intelligence Test_____ I.Q.__

Areas tested.

Visual _____

Auditory _____

Motor _____

Articulation _____

Language _____

Test Materials.

Individual test folder

Manual of directions

Table of percentiles

Suggestions for Reading Readiness

Cards for testing

The test set includes test booklets, manual of directions, suggestions for special classes, and a table of percentiles.

Scope of the test as stated in the manual.[1]

The tests have been chosen on the basis of frequent difficulties shown by poor readers in acquiring mechanics of reading. They are designed primarily for the purpose of survey and classification of first grade entrants. The manual states that on the basis of test results on the Marion Monroe Test children may be grouped early in their school life according to their abilities. It goes on to state that those individuals who are likely to have trouble in learning to read be given remedial work before they suffer failure.

The charting of each child's percentile scores of the various types of tests enables the examiner to tell in which fields the child is superior, average, or retarded; whether his abilities are even and correspond to his intellectual level, or whether there are marked difficulties in certain fields. The manual states that such comparison serves as a diagnostic measure.

The tests consist of "group" and "individual" items. The group tests may be administered to ten or twelve children at once and require about 30 to 40 minutes. The individual items are to be given to each child alone and require 10 to 15 minutes. The manual states that the examiner should have preliminary practice in giving the tests before attempting a survey of first grade.

Materials needed for testing.

Each child requires a test folder and pencil rather than crayons. The examiner requires a test folder for demonstration, two sets of cards provided

1/ Monroe, Marion, Manual for the Reading Aptitude Tests, Boston: Houghton Mifflin Company, 1935, p. 2.

with the test materials and the test picture of the farm scene. She also needs a cone about 10 inches long, 6 or 7 inches in diameter at the large end and $1\frac{1}{2}$ inches in diameter at the small end. This cone is used in the eye preference tests. She needs also to prepare an oblong piece of cardboard about 4 by 8 inches in dimensions, with a round hole the size of a quarter cut from the middle of the oblong. This is used in the peep hole test.

The tests.

Visual Test I Memory of orientation of forms.

The pupils have a page before them of twelve boxes with various figures. The examiner shows the children a card containing a form such as:  . The children are allowed to look at the card. They are then told to look at the two figures in the first box and draw a line around the one that looks like the one on the card. No further explanation or correction is given. The examiner proceeds the same way through the twelfth card. The twelfth card is the most difficult and contains four geometrical figures. This test was chosen because of the difficulties of many poor readers in differentiating between reversible letters and words.[1/]

Score: The only scoring explanation in the manual follows each test. In this test the score is number right, including first practice figure.

Visual Test 2 Ocular-motor control and attention.

This test page consists of nine boxes. In each one the child traces a route with his finger and when he comes to a 'street crossing' he walks

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1/ Ibid. p. 1.

straight across. A circle is made around the house which is one choice from three.

The manual[1] states that this test was chosen to measure ability to make finely co-ordinated eye movements. Poor readers often have difficulty in keeping the place, following the line of text, and making the eye adjustments required in reading.

Score: Number right including the first practice figure.

Visual Test 3 Memory.

In this test the child is shown a card on which are four nonsense figures. The card is exposed for ten seconds and then removed. The child draws as many figures as he remembers. The procedure is repeated for cards 2, 3, and 4.

This test is an attempt to check on those children with difficulties in recalling visual symbols. Any tendency to be confused by complex patterns should be apparent in this test.

Score: A figure completely right scores 1 credit. A figure partially right or reversed scores $\frac{1}{2}$ credit. Any fraction is dropped to make an even score.

Motor Test I Speed.

This test consists of one hundred circles. The child is told to make a little dot in each circle. He is allowed sixty seconds. The manual states[2] that poor readers frequently have poor motor control or slow reaction time.

1/ Ibid. p. 2

2/ Ibid. p. 2.

Score: Number of dots correctly made. A dot which extends beyond the line of the circle is not correct.

Motor Test 2 Steadiness.

This test consists of two lines of dots and dashes. The child is to draw one long line, keeping on the dots and dashes all the way. This test was chosen to give an indication of the child's ability to stay on a line, an important motor skill for reading and writing.[1/]

Score: Average number of dots covered by the two pencil lines, drop any half credit.

Auditory Test I Word discrimination.

This test consists of nine pictures: boat, cup, hen, hand, basket, rat, flower, hammer, and streetcar. Under each picture are the numbers 1, 2, and 3. The examiner makes three statements as: "this is a beet" (pointing to number 1), "this is a boat" (pointing to number 2), or "this is a boot" (pointing to number 3). The child draws a line around the number to correspond with the examiner's statements. In each set the examiner reads the words and only one is the correct pronunciation. The other words have vowel or consonant changes as: hin for hen, habber for hammer. It is suggested that the examiner should memorize the sequences or have them written on a small card. This test was selected to measure the ability to discriminate correct pronunciations of words. Children who lack this ability frequently find it difficult to discriminate the correct printed symbols for words of similar sounds or to apply phonetics as an aid to reading.[2/]

1/ Ibid. p. 2.
2/ Ibid. p. 2.

Score: Number right, including first two practice exercises.

Auditory Test 2 Sound blending.

This test page shows twelve boxes and each box contains three pictures as: saw, shoe, and ball. The examiner pronounces the word by separating the blends, vowels, and consonants as: this is a sh --oe. The child draws a line around the picture. This test indicates the ability to discriminate sound accurately and to blend the sounds in word building, both of which are important skills contributing to ability in phonetics.[1/]

Score: Number right, including shoe.

Language Test I Vocabulary.

Again there are twelve boxes on the page and each contains three pictures. The examiner pronounces a word and the child makes a circle around the picture that goes with that word. The words for this test were chosen from Thorndike's Word List, from words among the early frequencies. A good vocabulary is obviously an aid to reading, and for this reason a vocabulary test was included in the aptitude series.[2/]

Score: Number right.

Directions for Individual Tests.

These tests may either follow or precede the group test. If it follows the group test the examiner has an opportunity to establish rapport with the child before administration of the individual test.

1/ Ibid. p. 3.

2/ Ibid. p. 3.

Auditory Test 3.

The examiner reads a story on the test blank and the child retells what he remembers of that story. The examiner underlines the ideas reproduced by the child. The manual[1/] states that this test was selected to indicate the child's ability to retain ideas which he hears.

Score: The number of ideas which the child reproduces. Each idea credited for scoring is indicated between dashes on the test blank.

Articulation Test I.

The examiner pronounces words and phrases on the blank and the child repeats those words. Any mispronunciations are indicated above each group. Thus if the child says gween gwass for green glass, a w is written above the r and the l.

The manual[2/] states that speech defects are found more frequently among poor readers than among good readers. If we may regard speech and reading as language-related skills, it is probable that facility in reading might be predicted to some extent from facility in speech.

Score: The number of test phrases correctly articulated. Partial credit is not given; for example, if the child says gween glass, getting one of the words correct, that entire item is marked failed.

Articulation Test 2.

The examiner tells the child that he wishes to see how quickly the child can talk. The child repeats certain words after the examiner as: banana,

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1/ Ibid. p. 3.

2/ Ibid. p. 3.

banana, banana, as quickly as he can and keeps on until the examiner says to stop. The examiner records by a mark each word the child says in fifteen seconds. The other two phrases given are long ago and take a bite. In this test infantile pronunciations are ignored. The purpose is to measure the speed of articulatory reaction.

The manual[1/] states that this test besides giving an indication of the child's ability in facile speech, also gives an idea of his fatiguability. After the child has repeated banana a few times the pathway to that particular response becomes fatigued and blocking occurs. Some children recover quickly and continue with only a few blocks while others lose the ability to respond. Poor readers are often conspicuously fatiguable in any activity requiring prolonged attention. This test was, therefore, included in the aptitude series.

Score: Total number of times the child repeats the three phrases.

Language Test 2.

The child names all the animals that he can in thirty seconds. The same is done for things to eat and toys, allowing thirty seconds for each. Besides vocabulary, this test involves facility in verbal ideation. Some children may have a large vocabulary including the names of many animals, and yet may be unable to command this vocabulary with facility.[2/] Children who can command their verbal ideas readily, however, may be able to supply words from context in reading. This test, therefore, measures a type of verbal intelligence favorable to reading.

1/ Ibid. p. 3.

2/ Ibid. p. 4.

Score: Total number of animals, things to eat, and toys named by the child.

Language Test 3.

The child is shown the test picture of the old farmer and two boys. The Stanford-Binet picture of the Dutch Home may be substituted for the picture if desired. Score the length of sentences used spontaneously by the child. A convenient way of scoring is to make a mark for each word spoken and a dash between sentences, or sentence ideas. If the child uses and merely to string together unconnected ideas, the and is ignored.

The manual[1/] states that the length of sentences used by a child gives an indication of one phase of his language development. It continues by stating that connectives as: who, what, that, which, etc. are often a source of difficulty to poor readers. The author of the manual feels that it is possible that those children who use long complex sentences will have less difficulty in learning to read and in interpreting the meaning of the text than those who use simple, short, or fragmentary sentences.

Score: Number of words in the longest sentence or partial sentence used spontaneously by the child.

Motor Test 3.

The child is asked to write his name. The hand used is noted. He then writes his name with the other hand for a comparison of quality.

1/ Ibid. p. 4.

The manual[1/] states that kindergarten children are usually not taught to write their names, yet many first grade entrants have already acquired this ability. The author feels that a child who has learned to write his name before coming to school either has had the initiative and interest to find out how, or has been deliberately taught at home. The ability to write the name may indicate some preliminary interest in reading and writing either on the part of the child or his parents. The author continues to say that children who have learned to write their name possess sufficient motor control, guided by visual memory, to reproduce a complex pattern.

The score is as follows:

Score 0. Child does not know how to write his name.

1. Child writes or prints one of the letters in his name but no more.
2. Child writes or prints two or more letters in his name but cannot complete his first name.
3. Child writes or prints first name completely, but transposes some of the letters, or has such poor motor control that the shape of one or more of the letters is distorted or illegible.
4. Child writes or prints first name correctly and legibly.
5. Child writes or prints first name and last name correctly and legibly.

A child's nickname or pet name is permissible.

1/ Ibid. p. 4.

Laterality.

The author of this manual included laterality tests in the aptitude series since confused handedness and left-eye preference have been associated with some types of reading disabilities.[1/]

Hand preference tests.

Writing -- Note hand preferred in writing name.

Throwing -- Note hand used in throwing ball.

Combing hair -- Note hand used as the child pretends to comb his hair.

Batting -- Note the shoulder over which the bat is held.

Needle -- Note hand used in pushing (either in pushing thread into needle or needle onto thread).

Winding -- Note most active hand in winding a spool of thread (either in winding thread around spool or spool around thread).

Fold hands -- Note thumb uppermost in clasping hands.

Fold arms -- Note arm outermost (not hand) in folding arms.

Eye preference tests.

Note eye used in sighting through a cone. Also note eye preference in peeping through a small hole in a piece of cardboard. Allow three trials for each test.

1/ Ibid. p. 4.

Foot preference tests.

Hopping -- Note foot used in spontaneous hopping.

Kicking -- Note foot used in kicking football.

Climbing -- Note foot used in stepping upon a low chair.

Scoring.

The number of times the child chooses the right side is his total laterality score. High scores, therefore, indicate consistent right preferences. Low scores indicate consistent left preferences, and medium scores indicate confused or mixed preferences.

Norms.

The manual[1/] states that this test has been standardized from the records of 434 children from $5\frac{1}{2}$ to $8\frac{1}{2}$ years of age. The tests are an outgrowth of the research on reading disabilities published in "Children Who Cannot Read", University of Chicago Press, and of research on a series of perceptual tests devised at the Child Guidance Center under grant of the Buhl Foundation. The present form of the tests was devised and standardized in connection with work on reading disabilities in cooperation with the Pittsburgh Public Schools.

Raw scores are recorded on the face sheet of the blank. If an intelligence test has been given, the result is recorded under the child's I.Q. and the name of the test is given. In case no intelligence test has been given that column of the profile of abilities is left blank. The child's scores are compared with the tables of percentiles, and his percentile

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1/ Ibid. p. 5.

scores are recorded. The percentiles are charted on the profile of abilities by placing a point for each score and connecting the points.

A composite, or total percentile score on the entire test is obtained by taking the average score on the five types of tests: visual, auditory, motor, articulation, and language. This average percentile score proved to be a better predictive measure than a total point score, since the latter score gives undue weight to the motor and articulation tests, which contain the largest number of points.

Reliability.

The reliability coefficient, corrected by the Spearman-Brown formula, for the entire test is .87. In obtaining this reliability coefficient the odd numbered items were correlated with the even numbered items except in a few tests which did not have odd and even numbered items. These tests were considered as units themselves and their scores were added alternately to the odd and even items.

Validity.

The predictive value of the test was determined by correlating the percentile scores made on the reading aptitude tests on entering first grade with the children's scores on reading tests given at the end of the year. In the majority of classes, Gray's Oral Paragraphs and the Iota Word Test were used to measure reading achievement. The correlation coefficients (r corresponding to p) are given for the four first grade classes totalling 85 children on page 5 of the manual.[1/]

1/ Ibid. p. 5.

The composite percentile score proved to be the best predictive item. Following in order of value are the auditory and visual tests, then the articulation, language, and motor tests. The laterality tests did not prove to have predictive value considered as a whole. When left eye preference was considered separately from the other tests, this test had some significance in that 50% of the children who fell in the lowest quartile on the reading tests (i.e., who were the poorest readers) were left-eyed, compared with 36% of the children who fell in the upper quartile on the reading tests. Since it is often important in individual studies to know a child's handedness, the laterality tests are kept in the series, but not included in the percentile scores nor in the profile of abilities.

Children who were able to make scores of 80 percentile or above on the aptitude tests without exception, proved to be superior readers in their classes at the end of the first grade. On the contrary, those who scored below the 20 percentile without exception proved to be the poorest readers in their classes. Scores above the 60th percentile were usually followed by average or superior reading and scores below the 40th percentile usually indicated poor achievement in reading, although there are a few exceptions to this trend. The range between 40 and 60 percentile appears to be the least predictive range. At these levels, it is possible that personality, emotional, and teaching factors are most potent in turning the child toward good or poor achievement. Above these levels a child's aptitudes are so outstanding that it is rarely that other factors prevent his success. Below these levels, his aptitudes are so poor that it is unusual for other favorable factors to promote his achievement, although it is possible that special methods may be designed to improve the achievements of these children.

The reading aptitude tests offer a technique for the rapid survey and early homogeneous grouping of the children on the basis of their abilities.

In general, any percentile below 30 may be taken to indicate some difficulty in the field in which it occurs. A conspicuous drop in one field may also indicate difficulty even though the score itself may not be low. Thus, a child who makes scores of 90 in all fields except one in which his score drops to 50 may profit from some assistance in that field. It is helpful in interpreting the profile of abilities, to draw a red line across the chart atthe level of the percentile corresponding to the child's I.Q. One can tell in which field he surpasses his general intellectual level, and in which fields he falls short of that level. The majority of profiles show somewhat uneven abilities, with variations up and down, usually in the neighborhood of the intellectual level. In case an entire class falls low in one particular type of test, it is well to look for conditions which might bring about this deficiency. Children from foreign districts sometimes, as a group, fall low in the language and auditory tests. Certain dialects may affect a child's ability to discriminate the correct pronunciation of words.

The reading aptitude tests should be followed by a diagnosis of the reasons for each child's difficulty insofar as it is possible to determine them. In some cases actual sensory defects in vision and hearing may account for low scores in these tests. In other cases hyperactivity, excitability, extreme shyness, or nervous tension may prevent a child from scoring well on the test and also from learning to read. In still other cases, general mental retardation may account for low scores on the tests. The thoughtful teacher should consider all the various possibilities in the light of each

child's history and personality, and obtain data from physical examinations, psychological tests, etc., which will assist her in understanding his individual problem.

The manual says that in order to obtain the best results from the reading aptitude tests, the tests should be followed by a thoughtful interpretation and a high standard of instruction. In accordance with this statement specific remedial methods in reading are suggested in the manual.[1/] Sections of this folder deal with suggestions for children who make low scores in visual, auditory and motor tests.

Another two page folder is included in the test set. This folder contains suggestions for special classes in remedial reading and is also by Marion Monroe. She states that many children reach the age of six years chronologically without having reached a similar state of maturity in all types of development.

The suggestions for instruction are prepared to develop several types of reading readiness with those children who make low scores on the tests. Games and exercises are set up for children who make low scores on the visual, auditory, motor, articulation, and language items of the test.

A second two-page folder contains the table of percentiles to accompany the Marion Monroe test. There are tables for each of the five areas tested: visual, auditory, motor, articulation, and language.

1/ Ibid. p. 6-8.

Reading Readiness Test by

M. J. Van Wagenen, University of Minnesota

Published by Educational Test Bureau, Minneapolis, Minnesota, 1938.

Front of the test booklet.

Name_____ Sex_____ Form Used_____

Parent's name _____ Address_____

Date_____ Date of Birth _____ School_____

Age_____ Examiner_____

C-Score Individual Profile Chart for use with Form A or B, or average of Forms A and B.

The test set included test booklets, a manual of directions for administering and scoring, and cards (10 for Word Learning and 1 for Word Discrimination). Scales A and B.

Purpose.

The purpose of this test is to learn to know the child; it is used to find out to what extent he has the native ability and background to begin learning to read.[1/]

Development of the scales.

This Reading Readiness Test is made up of six tests that measure

1/ Van Wagenen, M. J., Manual of Directions for the Reading Readiness Test, Minneapolis: Educational Test Bureau, 1938.

different specific functions: the pupil's range of general information (Range of Information), his ability to detect and make use of relationships (Perception of Relations), his oral vocabulary (Vocabulary-Opposites), the number of ideas he can keep in mind at the same time (Memory Span for Ideas), his ability to discriminate between words (Word Discrimination), and the number of repetitions he needs to make in order to learn the names of printed words (Word Learning). From a group of fifteen tests, six were selected. These tests are scaled with items of difficulty evenly spaced from easy to hard.

Use of the C-Score Method.

The measure of difficulty selected was the fifty-fifty level or the point of difficulty where the child can answer one-half of the tasks he attempts. Within each scale the tasks are arranged in the order of difficulty, from easy to hard, and spaced approximately equal distances apart. This establishing of difficulty together with scores assigned to each of these levels is called the C-Score method.

Forms.

Two forms of each test are furnished, with the difficulty level, or scale value, of each task shown on the margin of the test. The teacher can see the task which the child is able to do correctly one-half of the time. For example, if a child's C-Score on the Range of Information Scale is 40, he will answer correctly questions of the difficulty of No. 9 on either form of the scale, approximately one-half of the time. At lower levels of difficulty, he will answer correctly a larger proportion of questions, and

at higher levels, a smaller proportion than one-half. At ten units lower he should answer approximately three out of four, while at ten units higher he should get only one out of four correct; at twenty units lower, nine out of ten, and twenty units higher, one out of ten.

Value of the test scores.

The difficulty values have been scaled alike in all the functions except Word Learning, so that not only may children be compared in the same function, but a child's score in one function may be directly compared with his own score, or any other child's score in any other function. For classification and study the scores should be charted on a profile chart. For purposes of comparison, it is helpful also to find his mid-score.

Validity.

The correlation between the mean scores on the Reading Readiness Scales and on reading scales (derived from reading tests) was .73 $\pm$ .03. When corrected the relationship approximated .80.

Reliability.

After the scales had been completed the two forms were given to 220 children just completing kindergarten. For this group, the quartiles of distributions of each of the measures in each of the six tests very closely approximated an eight point scale. A table in the manual is set up to predict probable errors of measures expressed in C-Scores.

Directions for giving and scoring the test.

The test is individual. Either Form A or Form B may be given alone but more trustworthy results will be obtained if both forms are used. When both forms are given they should be administered together. With the exception of the Word Learning Scale, both Forms A and B can, in the majority of cases, be completed at one sitting. Form B of the Word Learning Scale should always be given at a second sitting.

As the child is given the test, the items correctly done are marked by the examiner on the booklet. After the test has been finished, the number of items correctly done should be determined for each scale and this number converted into its corresponding C-Score from the C-Score Key given at the right of the test itself and entered upon the chart.

Directions for determining Aptitude Index, general interpretations of the test, and tables for the following are given in the manual.[1/]

Table I	Table of Per Cent Placements for the Range of Information Scale
Table II	Table of Per Cent Placements for the Perception of Relations Scale
Table III	Vocabulary Scale
Table IV	Memory Span for Ideas Scale
Table V	Word Discrimination Scale
Table VI	Word Learning Scale
Table VII	Table for Transmitting Sum of Per Cent Placements to Aptitude Indices for Reading.
Cumulative	Individual Profile Chart

1/ Ibid. p. 7-15.

Test I Range of Information, Scales A and B.

The examiner repeats question 1. If a correct response is given a "C" is made on the dotted line. If no response or an incorrect response is given no mark is made. The examiner continues through thirty questions on Form A and may continue through thirty on Form B. In scoring, the number right is recorded. If both forms are given the scores are averaged and recorded as such. This score should also be recorded on the Profile Chart and the Cumulative Individual Profile Chart if that one is used.

Test II Perception of Relations, Scales A and B.

The examiner pronounces words as sky and blue and asks the child what word would go with grass. Green is the answer and the child may require help. Nine such practice exercises are given. The examiner then goes ahead and administers the scales recording the right answers only and scoring the same as in the first scale. Thirty items are given in each form.

Test III Vocabulary (Opposites), Scales A and B.

The examiner begins with the stimulus word and proceeds down the list. The child gives the opposite as yes -- no, new -- old, etc. Eight practices are provided. The scales contain thirty items each. The scoring is the same as in the preceding scales.

Test IV Memory Span for Ideas, Scales A and B.

The examiner reads a sentence and the child repeats the sentence after the examiner. Three samples are provided. Each scale contains twenty-five sentences in order of difficulty. The examiner is not to repeat any sentence

unless there has been an outside interruption. If the child fails eight consecutive sentences the test may be stopped. The scoring is the same as in the preceding scales.

Test V Word Discrimination, Scales A and B.

For this test, a special card and cut-out are used in addition to the test booklet. The child points to one word in a row of five words that is different. The cut-out is moved down the card so as to expose only one row of words at a time. Five samples are provided. The scoring is the same as in the previous scale.

Test VI Word Learning Test.

Two sets of five cards, each containing a foreign word, are needed for this test. The examiner holds up one card at a time and pronounces an English word which the child is to associate with the foreign word. After the set of five has been explained once, which constitutes the first trial, proceed with four more trials, without waiting for the child to think of the English word before it is pronounced for him. After each trial, shuffle the cards. Beginning with the sixth trial, give the child about five seconds to recall the English word for each card. If he fails to respond within the five seconds, tell him the correct English word, but give no credit and pass on to the next.

The test must be continued until the child has given all five associated words correctly twice in immediate succession. The scoring is done on the test booklet in a chart provided to record the number of attempts made to

attain the perfect recall. A C-Score is not given on this test but a comparable one is made. When both forms are given the average is entered on the chart.

Sangren Information Tests for Young Children by

Paul V. Sangren, Ph.D., Director of Educational Measurement and Research,

Western State Teachers College, Kalamazoo, Michigan.

Published by World Book Company, Yonkers-on-Hudson, New York, 1930.

Front of the test booklet.

Name _____ Grade _____

Date _____ Teacher _____

School _____ City _____

Chronological Age _____ Examiner _____

Mental Age _____ Intelligence Quotient _____

		Score	Percentile Rank
I	Nature Study	_____	_____
II	Numbers	_____	_____
III	Vocabulary	_____	_____
IV	Social Science	_____	_____
V	Household Knowledge	_____	_____
VI	Language and Literature	_____	_____
	Total Score	_____	_____

The directions for constructing the Profile Chart are also explained on the front of the test booklet. The Profile Chart also appears in the test booklet.[1/] Norms are provided for kindergarten and first grade children.

1/ Sangren, Paul V., Sangren Information Tests for Young Children, Individual Record Blank, Yonkers-on-Hudson, New York: World Book Company, 1930, p. 2.

The test set includes booklets and examination manual.

Purpose of the tests as stated in the manual.[1/]

The Sangren Information Tests for Young Children are intended:

1. to call attention to greater definiteness and certainty in nursery and kindergarten instruction,
2. to determine what young children at various stages of maturity and various stages of instruction do know,
3. to attempt to fix some standards of promotion and placement, and
4. to provide a basis for instructional practices and classroom management at the beginning of the first grade.

Nature of the test.

These tests are individual tests to be used for the purpose of determining the general quality and range of information of young children. Available data show[2/] that these tests give as good a measure of mental level and brightness as do group intelligence tests for young children. The tests consist of the following parts:

Test I Nature Study

Test II Numbers

Test III Vocabulary

Test IV Social and Civic Information

1/ Sangren, Paul V., Manual for Sangren Information Tests for Young Children, Yonkers-on-Hudson, New York: World Book Company, 1930.

2/ Ibid. p. 2.

Test V Household Information

Test VI Language and Literature

The words for Test III, the Vocabulary Test, were selected from Gates Primary Word List.

Experimentation and revision.

The experimental edition of the tests was given to approximately 350 kindergarten and first-grade children. Of the kindergarten children included, the average chronological age was 5 years 10 months and the average intelligence quotient was 96. Of the first-grade children included, the average chronological age was 6 years 7 months, and the average intelligence quotient was 101.

Use of the tests.

These tests may be used for the following purposes in primary grades:

1. to study comparative achievements of children,
2. to place and promote children from grade to grade,
3. to classify children into homogeneous groups for instructional purposes, and
4. to determine the relative amounts of knowledge which children possess and the field in which they may need strengthening.

Placement and promotion.

Results of these tests may be used for placements, promotion to first grade from kindergarten, and for ability grouping. These results should not be absolute standards but rather used as indications of ability and for

purposes of grouping for instruction. When used to classify pupils in a three-sectional grouping, the Information Tests and the Stanford Revision of the Binet Tests will agree about 80% of the time.[1/]

Validity.

Since so few measures of the attainments and achievements of young children are now available it is difficult to check validity by means of correlation with other measures. Several tables are presented on pages 8 and 9 of the manual which present coefficients of correlation obtained between children's ages and between teachers' marks and the total scores on the Information Tests.

Reliability.

The coefficients of correlation between scores obtained on the odd and even exercises were calculated and Brown's formula applied. The resulting tables show the reliability fairly high and approximately the same degree of reliability in the kindergarten and the first grade.

General instructions for administering.

All the directions for administering the examination are included in the manual.[2/] The manual includes all instructions for scoring and recording in a clear and simple way. After studying the manual and record book once, the test may be administered with reasonable accuracy. Everything that is to be said to the child is printed in boldface type. A reasonable length of time

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1/ Ibid. p. 4-6.

2/ Ibid. p. 11-28.

is allowed for the child to make responses. The tests may be given in two sittings if fatigue is evident. Tests I, II, and III may be given before a recess and then Tests IV, V, and VI to finish the test.

Scoring.

All directions for scoring the tests and test items accompany the directions. The answers included are the usual or typical ones. No attempt is made to record all possible answers that a child might give.

Recording.

The individual record booklet should contain information as to the name of the child, grade, and sex. Indication is made by a plus (+) for correct items and a minus (-) for failures. Separate points on test items should be totaled on the record booklet to secure the measures on the separate tests. The scores on the separate test parts should then be transferred to the space provided on the front page of the booklet and a profile constructed to show the relative strengths and weaknesses in the abilities tested.

Test I Nature Study.

This test consists of twenty-eight questions about animals, birds, vegetables, fruits, and general subject matter.

Test II Numbers.

There are seventeen questions in this test. They include such number concepts as how many, which is older, which is longest, money, counting,

how many, and reading numbers.

Test III Vocabulary.

This test requires the child to give a definition for thirty-five different words or phrases. Examples: What are toys? When is a thing past?

Test IV Social and Civic Information.

Thirty questions are asked. They include names of family members, and duties of postman, nurse, teacher and soldier, etc.

Test V Household Knowledge.

This test consists of sixteen questions about objects common in the home. What use is made of a cup?, a furnace?, and an ice box?

Test VI Language and Literature.

The examiner reads a selection and then asks questions which require one or two word answers. A story, poem, and riddle, are included. The child is also asked to repeat nursery rhymes, short poems, the alphabet, and asked to read words and sentences.

Stevens Reading Readiness Test by

Avis Coultas Stevens, M.A., Formerly Director of Reading Clinics, Cleveland, Ohio, Public Schools.

Published by World Book Company, Yonkers-on-Hudson, New York.

Front of the test booklet.

Name _____ Sex _____ Date _____

School _____ Birthdate _____ Age _____

Teacher _____ Grade _____ I.Q. _____

Score Part 1 _____

Score Part 2 _____

Score Part 3 _____

The test set includes test booklets, manual of directions, and class record sheet.

Purpose of this test as stated in the manual.[1/]

This test is considered an analysis of a child's perceptual and recall abilities. By using this test the teacher may:

1. Plan reading groups during the first two weeks of school.
2. Screen out those children for whom reading should be postponed.

1/ Stevens, Avis Coultas, Manual of Directions for Stevens Reading Readiness Test, Yonkers-on-Hudson, New York: World Book Company, 1944.

3. Indicate probable rate of speed at which various reading groups should work.
4. Individual analysis of children to discover special strengths and weaknesses.

Description of the test.

This test contains three parts. Each part is scored objectively.

Part 1 is designed to test visual discrimination and consists of sixteen pages involving 120 items. This test may be administered to small groups. Pages 1-8 of Part 1 is devoted to finding the thing that is different. Page 1 is a practice page containing five rows of pictures and five rows of letters. The children circle the one in each row which is different. The exercises contain letters, words, phrases, and paragraphs. Pages 9-16 are devoted to matching or finding another one that is exactly like the first one in each row. Page 9 is a practice exercise and contains five rows of pictures and five rows of letters. The pupil draws a ring around the first symbol in each row and finds another in the row which is exactly like the first and circles that. The exercises contain single letters, words, and phrases.

The letter, word, and phrase-symbols used in Part 1 were selected from records of errors made in oral reading by 472 reading clinic cases in Cleveland, Ohio.

Part 2 is designed to test a pupil's skill in listening, comprehending, recalling, and retelling a short story. The story is read to the child. The child is asked to retell the story. Twenty items which cover the ideas expressed in the story are to be checked.

The checking is done on the record blank as the child tells the story. Eight questions have been supplied for aided recall. This test is given individually.

Part 3 is optional and is designed to test visual-auditory recall. The presentation of words and pictures are given to small groups. The testing is individual. The eight words used in this part of the test were chosen on the basis of experimental tryout.

Standardization of the test.

This test is the result of experimentation over an eight-year period in Cleveland, Ohio. The norms are expressed in terms of successive nine-point intervals of raw score: deficient, very poor, poor, fair, average, good, very good, excellent, and superior.

Reliability.

The reliability, or the degree of consistency with which this test measures reading readiness, has been determined by the split half method of correlating scores on the odd-numbered items with scores on the even-numbered items and correcting the coefficient by means of the Spearman-Brown formula. The coefficients are given below.

Test	Reliability Coefficient
Part 1	.986
Part 2	.905
Average 1 and 2	.956
Average 1, 2, and 3	.920

Validity.

The validity, or extent to which the test actually measures readiness for reading, was found by correlating the test scores and the criterion scores, using the Pearson Product-Moment Coefficient of Correlation. The validity coefficients are summarized below.

Test	Validity Coefficients
Average 1, 2, and 3	.801
Average 1 and 2	.762
Part 1	.678
Part 2	.602
Part 3	.454

General suggestions.

This test should be given to beginning first-grade children during the first two or three weeks of school. There is just one form of this test. The burden of giving the test may be distributed over two weeks' time. Suggestions for satisfactory division of time is given in the manual.[1/]

Part 1 (First sitting).

Blackboard samples are suggested and detailed directions for administering are given in the manual. Exactly four minutes time is allowed for each page. Pages 1 through 4 are worked at this time.

Part 1 (Second sitting)

Proceed with blackboard illustrations first and repeat the same direc-

1/ Ibid. p. 2.

tions. Two minutes each are allowed for pages 6 through 8. Page 5 is the practice page and no time limit is given for this page.

Part 1 (Third sitting).

Practice for page 9 is worked on the blackboard. Page 9 is then worked and not timed. In this exercise the children circle the first letter or picture in the row and then circle another picture or letter that is exactly like the first one. Pages 10, 11, and 12 are worked independently. Five minutes time is allowed for each page.

Part 1 (Fourth sitting).

Practice for page 13 is worked at the board. Page 13 is the practice page and is not timed. Pages 14, 15, and 16 are allowed three minutes each. The directions for this exercise are the same as the one above. The child circles one phrase that is like the first one.

Scoring Part 1.

An answer key is provided on page 11 of the manual. The score is the number right on each page. The total score is found as follows:

1. The total of the scores for pages 2, 3, 5, 10, 11, and 13 divided by 5.
2. The actual total of the scores for pages 4, 6, 12, 14, and 15.
3. The total of the scores for pages 7 and 16 multiplied by 2.
4. The score for page 8 multiplied by 3.
5. The total score for Part 1 is the sum of the above scores.
6. Eighty is a perfect score.

Directions for giving Part 2.

This test should be given to each child individually and in such a way that the other children do not hear the story or the responses. The story is then read to the child and he in turn retells the story. The responses are recorded on a check list for that purpose. Responses without questions, responses in answer to questions, and the form in which responses are given are recorded.

Scoring Part 2.

A credit of one point should be given for each idea recalled. This number is multiplied by four. Eighty is a perfect score. If Part 3 (optional) is not given, add the final scores for Part 1 and 2 and divide by 2. Fill in the summary reserved for this information on the front page of the pupil's test booklet. Eighty is a perfect score for this average.

Directions for giving Part 3.

The two pages of pictures and words found between pages 6 and 11 of the manual should be cut and mounted to make eight word-picture cards and eight word cards. The word-picture cards are taught and used in the same order for three days before the individual test. On the fourth day the word cards are shown in the following order: ball, table, bed, cake, tree, window, chair, and flag.

Directions for scoring Part 3.

One point is given for every word symbol correctly named. A credit of .5 is given any other word in the list which was recalled one or more times but was associated with the incorrect word symbol. Further explanations and samples of scoring are given on page 13 of the manual.

Directions for finding and recording pupil's total test scores.

If all three parts of the test are given, add the final scores for Parts 1, 2, and 3 and divide by 3. Fill in the summary on the front page.

Eighty is a perfect score for this average. Use of the Class Record Sheet and Individual Profile Graph are given in the manual.[1/]

Interpretations and recommendations.

Interpretations of total test scores are given in the manual.[2/] The scores are arranged in order from deficient to superior on a nine point scale as discussed under the standardization of the test. Interpretations for each part of the test along with recommendations for improvement are given on the last pages of the manual.

1/ Ibid. p. 13.

2/ Ibid. p. 14.

Van Alstyne Picture Vocabulary Test for Preschool Children by Dorothy Van Alstyne.

Published by Public School Publishing Company, Bloomington, Illinois.

The Van Alstyne test has no test booklet. The only materials are a one page manual and the set of forty-five picture cards. The front of the manual gives the purpose and nature of the test as well as the directions for administration and scoring. A chart inside the manual is for the teacher to record the child's responses as they are given.

Purpose and nature of the test as stated in the manual.[1/]

This test is designed to test vocabulary comprehension and is to be used on children approximately three years of age. It may, however, be used with children whose mental ages are between two and five years. The test requires:

1. no oral response,
2. is scored objectively,
3. there can be no ambiguities to the child in the questions asked,
4. the test requires approximately fifteen minutes time to administer, and
5. it is a means of establishing rapport for further testing.

1/ Van Alstyne, Dorothy, Directions for Van Alstyne Picture Vocabulary Test for Preschool Children, Bloomington, Illinois: Public School Publishing Company, 1929.

There are four pictures on each card and there are forty-five cards. The test words cover thirty-one nouns and fourteen verbs. The three extra non-test words on each of the cards were selected as follows: (1) at least one word is of an equal level of frequency with the test word, (2) at least one word is associated with the test word in life situations, e.g., thimble-needle, (3) at least one word has a sound similarity, of the first letter, with that of the test word. Each of the three non-test words represent words in one of the above criteria, although an attempt was made by the author to have them all satisfy the first one as far as possible. In the case of verbs the second criteria could not always be followed.

Instructions for giving the test.

Divide the cards into two groups, one containing the odd-numbered cards and one the even-numbered cards.

In giving a test the first group of twenty-three odd-numbered cards are presented. A few minutes rest or change of activity is given before presenting the group of twenty-one even-numbered cards.

In presenting a test card to the child, keep the other cards turned down or out of sight as much as possible. The use of a small blank card is recommended for covering up two pictures while the child looks at two and then the process is reversed. The child is told to put his finger on the object named. The examiner used the words at the bottom of the card as a guide. Help is given at first until the child understands.

The examiner uses the record chart inside the directions folder for recording each child's indications. An x is made to indicate a correct

response in the space opposite the child's name under the number of that card on the record chart. If an incorrect picture is chosen, an o is placed in the space on the record chart. If the child does not make an indication or says he does not know, a question mark (?) is placed on the record chart.

The scoring is done objectively. The score is the number correct only and zeros or question marks are disregarded. The total score is recorded in the correct column.

The M.A. or mental age equivalent to the child's total score is given in the table on the direction sheet and recorded in the proper column.

The C.A. or chronological age is also recorded in its proper column.

Norms.

The table giving approximate mental ages and intelligence quotients should be interpreted with the following facts in mind. The figures given are the results of testing 80 children from 33 to 39 months of age, with an average mental age of 40 months and an average I.Q. of 114. All of the children had parents born in English speaking countries, chiefly in the United States. All of the children were living in their own homes.

Reliability.

The manual[1/] states that the reliability correlation of the test is .87. It states that there is practically perfect correlation with the Kuhlmann Mental Test, when corrected for attenuation by the Spearman-Brown formula.

1/ Ibid. p. 4.

A summary of the findings of these analyses are presented in the next chapter.

Table I shows the total number of sub-tests in each test analyzed.

TABLE I

Number of Sub-Tests in Each Test Analyzed

Name of Test	Number of Sub-Tests
1. Reading Aptitude Tests, published by Houghton Mifflin Mifflin Company, Boston, Massachusetts	17
2. American School Reading Readiness Test, published by Public School Publishing Company, Bloomington, Illinois	8
3. Metropolitan Readiness Test, published by World Book Company, Yonkers-on-Hudson, New York	7
4. Reading Readiness Test, published by Educational Test Bureau, Minneapolis, Minnesota	6
5. Sangren Information Tests for Young Children, published by World Book Company, Yonkers-on-Hudson, New York	6
6. Gates Reading Readiness Tests, published by Bureau of Publications, Teachers College, Columbia University, New York	5
7. New York Reading Readiness Inventory, published by Bureau of Reference, Research and Statistics, New York City, New York	5
8. Lee-Clark Reading Readiness Test, published by California Test Bureau, Los Angeles, California	4
9. Diagnostic Group Reading Readiness Test, published by World Book Company, Yonkers-on-Hudson, New York	3
10. Classification Test for Beginners in Reading, published by Webster Publishing Company, St. Louis, Missouri	2
11. Stevens Reading Readiness Test, published by World Book Company, Yonkers-on-Hudson, New York	2
12. Van Alstyne Picture Vocabulary for Preschool Children, published by Public School Publishing Company, Bloomington, Illinois	1
Total	66

The Reading Aptitude Tests published by Houghton Mifflin Company, Boston, Massachusetts, has 17 sub-tests which places it at the top of the list. The others follow in the order shown in Table I. The Van Alstyne Picture Vocabulary Test for Preschool Children published by the Public School Publishing Company of Bloomington, Illinois, has but 1 sub-test. A total of 66 sub-tests were found in the twelve tests analyzed.

Table II shows the areas tested in all twelve standardized reading readiness tests.

TABLE II

Number of Items Under Each Area in All Twelve Tests

Areas Tested	No. of Items in All Twelve Tests	
Visual		
Pictures	19	
Geometric figures	21	
Letters	166	
Words	282	
Phrases	40	
Sentences	0	
Numbers	13	
Total		541
Vocabulary		
Pictures	155	
Classification	35	
Words	3	
Sentences	40	
Relationships	60	
Opposites	60	
Total		353
Information		
Experience	150	
Number concepts	57	
Total		207
Memory		
Visual	10	
Auditory	142	
Total		152
Auditory		
Beginning sounds	36	
Endings	62	
Blends	24	
Words	0	
Phrases	0	
Sentences	0	
Paragraphs	12	
Articulation	3	
Total		137
Motor		
Speed	1	
Control	42	
Free drawing	1	
Writing names	2	
Following directions	13	
Total		59
Learning Words	28	
Total		28
Laterality	13	
Total		13
Total Number of Items in All Twelve Tests		1490

The area of visual discrimination has a total of 541 items in all twelve tests. Vocabulary items are next with a total of 353 items, while information and memory follow with 207 items and 152 items respectively. Auditory items totaled 137. Motor, learning words, and laterality had the least number of items with 59, 28, and 13 respectively. In all a total of 1490 items were found in all twelve tests analyzed.

Table III presents an item analysis of all the areas tested in the twelve standardized reading readiness tests.

TABLE III

Item Analysis of All Areas Tested in Twelve Standardized Reading Readiness Tests

			Visual								Auditory									Motor																							
Test	Author	Publisher	Pictures	Geometric Forms	Letters	Words	Phrases	Sentences	Numbers	Total No. of Visual Items	Beginning Sounds	Endings	Blends	Words	Phrases	Sentences	Paragraphs	Articulation	Total No. of Auditory Items	Speed	Control	Free Drawing	Writing Names	Following Directions	Total No. of Motor Items	Pictures	Classification	Words	Sentences	Relationships	Opposites	Total No. of Vocabulary Items	Experience	Number Concepts	Total No. of Information Items	Visual	Auditory	Total No. of Memory Items	Laterality	Total No. of Laterality Items	Learning Words	Total No. Learning Word Items	Total No. Items in Each Test	Total Factors in Each Test	Total Sub-Tests in Each Test
1. American School Reading Readiness Test	Robert V. Young, Willis E. Pratt, and Carroll A. Whitmer	Public School Publishing Company, Bloomington, Illinois		10S	8S 8D	6 6S				38																7			9			16				6		6					60	6	8
2. Classification Test for Beginners in Reading	Clarence R. Stone and Clifford C. Grover	Webster Publishing Company St. Louis, Missouri				24S 37S-D				61																																	61	1	2
3. Diagnostic Group Reading Readiness Test	Helen A. Murphy and Donald D. Durrell	World Book Company Yonkers-on-Hudson, New York			26	26				52	36	36	12						84																					10	10	146	6	3
4. Gates Reading Readiness Tests	Arthur I. Gates	Bureau of Publications, Teachers College, Columbia University, New York			52	18S 20S			10	100		14							14							36						36											150	5	5
5. Lee-Clark Reading Readiness Test	J. Murray Lee and Willis W. Clark	California Test Bureau Los Angeles, California			12S 12D 3S	17S				44																20						20											64	3	4
6. Metropolitan Readiness Tests	Gertrude Hildreth and Nellie L. Griffiths	World Book Company Yonkers-on-Hudson, New York	7D	6D	2D	5D			3D	23											11	1	1		13	19			15			34	16	40	56								126	11	7 - 7th optional
7. New York Reading Readiness Inventory	Board of Education, New York City	Bureau of Reference, Research and Statistics, New York City New York	8D			29S				37							12		12		20			13	33	16			15			31											113	7	5
8. Reading Aptitude Tests	Marion Monroe	Houghton Mifflin Company Boston, Massachusetts			12S					12		12	12					3	27	1	9 2		1		13	12		3	1			16				4	22	26	13	13			107	13	17 - 15, 16,17, optional
9. Reading Readiness Test	M. J. Van Wagenen	Educational Test Bureau, Minneapolis, Minnesota				46D				46																				60	60	120	60		60		50	50			10	10	286	6	6
10. Sangren Information Tests for Young Children	Paul V. Sangren	World Book Company Yonkers-on-Hudson New York				8				8																	35					35	28 30 16	17	91		24 26	50					184	5	6
11. Stevens Reading Readiness Test	Avis Coultas Stevens	World Book Company Yonkers-on-Hudson New York	2D 2S	2D 3S	6D 10D 10S 5S	20D 20S	20D 20S			120																											20	20			8	8	148	7	2
12. Van Alstyne Picture Vocabulary for Preschool Children	Dorothy Van Alstyne	Public School Publishing Company, Bloomington, Illinois																								45						45											45	1	1
			19	21	166	282	40	0	13	541	36	62	24	0	0	0	12	3	137	1	42	1	2	13	59	155	35	3	40	60	60	353	150	57	207	10	142	152	13	13	28	28	1490	71	66

S means similar
D means different

Under the visual area 19 items were pictures, 21 geometric forms, 136 letters, 282 words, 40 phrases, and 13 numbers making a total of 541 visual items in all tests analyzed.

In the auditory area there were 137 items in all. Of this number, 36 were beginning sounds, 62 ending sounds, 24 blends, 12 paragraphs, and 3 articulation.

There were 59 items under the motor area. Of these items 1 was for speed, 42 for control, 1 a free hand drawing, 2 for writing names, and 13 following directions.

The vocabulary items were next to the visual in number with 353 items in all. Of this number, 155 items were pictures, 35 classification, 3 words, 40 sentences, 60 relationships, and 60 opposites.

There were 207 items of information. Of these, 150 were experience and 57 number concepts.

There were 152 memory items. Of these, 10 were visual and 142 auditory.

There were 13 tests of laterality and 28 items concerning the learning of specific words.

In all a total of 1490 items were found in all tests, 71 different factors were present, and 66 sub-tests were included in the twelve tests analyzed.

It will be readily seen that not all tests measure the same abilities. The absence of auditory discrimination items in a majority of the tests would seem a significant factor. It points up the discrepancy between educational research findings and actual practice.

Table IV presents the list of tests analyzed in this study, the names of the authors, publishers, the dates of publication and the price of the tests.

TABLE IV

Source Information on the Twelve Standardized Reading Readiness Tests										
Test	Author	Publisher	Date	Form	Key for Scoring	Directions for Scoring	Group	Individual	Price	Price per Specimen Set
1. American School Reading Readiness Test	Robert V. Young, Willis E. Pratt, and Carroll A. Whitmer	Public School Publishing Company, Bloomington, Illinois	1941	Form A Form B	X		X		$4.00 per 100	.25
2. Classification Test for Beginners in Reading	Clarence R. Stone and Clifford C. Grover	Webster Publishing Company St. Louis, Missouri	1933	1 form		X	X		.09 each manual free	same
3. Diagnostic Group Reading Readiness Test	Helen A. Murphy and Donald D. Durrell	World Book Company Yonkers-on-Hudson, New York	1947	1 form		X	X	X testing	as yet undetermined	
4. Gates Reading Readiness Tests	Arthur I. Gates	Bureau of Publications, Teachers College, Columbia University, New York	1939	1 form		X	X	X	$3.75 per 100	.25
5. Lee-Clark Reading Readiness Test	J. Murray Lee and Willis W. Clark	California Test Bureau Los Angeles, California	1931 1943 (revised)	1 form		X	X		$1.20 per 25	.35
6. Metropolitan Readiness Tests	Gertrude Hildreth and Nellie L. Griffiths	World Book Company Yonkers-on-Hudson, New York	1933-1939	1 form	X		X		$1.50 per 25	.35
7. New York Reading Readiness Inventory	Board of Education, New York City	Bureau of Reference, Research and Statistics, New York City, New York	1944	Form A Form B	X		X		not for sale	
8. Reading Aptitude Tests	Marion Monroe	Houghton Mifflin Company Boston, Massachusetts	1935	1 form		X	X	X	$1.35 per 25, teacher's material .72	.10
9. Reading Readiness Test	M. J. Van Wagenen	Educational Test Bureau, Minneapolis, Minnesota	1938	Scales A and B		X		X	$1.50 per 25	.50
10. Sangren Information Tests for Young Children	Paul V. Sangren	World Book Company Yonkers-on-Hudson, New York	1930	1 form		X		X	$1.20 per 25 teacher's manual $1.65	no specimen sets
11. Stevens Reading Readiness Test	Avis Coultas Stevens	World Book Company Yonkers-on-Hudson, New York	1938-1944	1 form	X		X	X	$2.20 per 25	.35
12. Van Alstyne Picture Vocabulary for Preschool Children	Dorothy Van Alstyne	Public School Publishing Company, Bloomington, Illinois	1929	1 form		X		X	$1.00 per 45 extra folders .02	.10

This table shows that the tests analyzed were published between 1929 and 1947. Of the tests analyzed, 10 had but 1 form while 2 tests had 2 forms, A and B. Keys for scoring were provided with 4 tests, while directions for scoring were provided with 8 tests. Of the tests analyzed, 5 were group tests, 3 individual, and 4 had both group and individual items.

CHAPTER IV

Summary and Conclusions

Summary and Conclusions

Twelve standardized reading readiness tests were analyzed to discover the functions tested, the nature of the items, and the reliability of the tests as presented by the publishers.

The following general conclusions were drawn:

1. There were 66 sub-tests in all the tests analyzed. The individual test with the greatest number of sub-tests had 17 while the test with the smallest number of sub-tests had 1.
2. Of all the areas analyzed in the twelve reading readiness tests the area of visual perception had the greatest number of items, 541, while laterality had the smallest number of items, 13.
3. An item analysis of all the areas tested revealed a total of 1490 items in all tests analyzed.

One purpose of this study was to justify through research the use of standardized reading readiness tests in predicting success in reading. The numerous experiments mentioned in this study are evidences of the value of reading readiness tests. Reading readiness tests in general prove fairly valid and reliable in predicting reading achievement. Although one test may be adequate, several tests used together might give a better indication of probable success in reading. Other factors such as language and informational background as well as the physical, mental, and emotional factors certainly enter into the whole picture of the child and his readiness and desire to learn to read. The need for an accurate and reliable instrument for determining whether a child is ready to read or not seems to be fulfilled

by reading readiness tests. For practical purposes they are diagnostic in nature and, therefore, to be of value, the scores of each individual child must be studied carefully. Only by a careful analysis of each child's strengths and weaknesses can a reading program be planned to cope with his needs and insure him of reading success.

The following brief summary is the writer's comments concerning each of the twelve standardized reading readiness tests analyzed.

1. American School Reading Readiness Test published by Public School Publishing Company, Bloomington, Illinois, includes the discrimination of geometric forms which only a few tests possess. It also has a Class Record Chart to give a graphic picture of the whole group, with space for analysis of the individual's disabilities of physical, social, and emotional nature.
2. Classification Test for Beginners in Reading published by Webster Publishing Company, St. Louis, Missouri, has but two sub-tests and, therefore, tests an extremely limited number of factors pertaining to reading readiness.
3. Diagnostic Group Reading Readiness Test published by World Book Company, Yonkers-on-Hudson, New York, is the most recently published reading readiness test and because of this fact standardization data are not available at this writing. This writer feels, however, that the auditory discrimination items included in this test are of significant value in the diagnosis and in the planning of a program to insure reading success. This test also attempts to determine the learning rate of words and during the test the words are taught, enriched, and then tested individually. At present there is no

evidence in the field of research to accurately predict the value of the learning rate test. It is a unique factor of this test and one which warrants further research study.

4. Gates Reading Readiness Tests published by Bureau of Publications, Teachers College, Columbia University, New York, has a highly predictive value in determining reading success as evidenced by the research presented.

5. Lee-Clark Reading Readiness Test published by California Test Bureau, Los Angeles, California, contains only sixty-four items and measures only three factors pertaining to reading success.

6. Metropolitan Readiness Test published by World Book Company, Yonkers-on-Hudson, New York, provides a wide range of items and the factors they measure make it one to be considered as a test for diagnostic and predictive purposes.

7. New York Reading Readiness Inventory published by Bureau of Reference, Research and Statistics, New York City, New York, is being revised but because it is not for sale and cannot be used outside of New York City is useless to consider as a testing instrument for public schools. It was obtained to include in this analysis for study purposes only.

8. Reading Aptitude Tests published by Houghton Mifflin Company, Boston, Massachusetts, contains the greatest number of sub-tests, seventeen in all. These sub-tests cover items infrequently measured by other reading readiness tests but which might be significant for teacher interpretation.

9. Reading Readiness Test published by Educational Test Bureau, Minneapolis, Minnesota, is an individual test and provides a profile chart which should be of value in determining the readiness program of each individual tested.

10. Sangren Information Tests for Young Children published by World Book Company, Yonkers-on-Hudson, New York, is exactly what its name implies. It tests only eight visual items and neither auditory nor motor items. The test consists mostly of oral questions, the answers to which depend greatly upon the child's background and experience.

11. Stevens Reading Readiness Test published by World Book Company, Yonkers-on-Hudson, New York, is one which attempts to determine the rate of word learning. It is also one of the few tests which attempts to measure auditory memory. This test also includes a manual for developing readiness and rating scales of mental, physical, home, language, and social factors. This test requires periods spread over two weeks for administration.

12. Van Alstyne Picture Vocabulary for Preschool Children published by Public School Publishing Company, Bloomington, Illinois, contains only one sub-test and is the oldest test in the analysis. Because of its limitations the value of such a test for predicting success in reading is questionable.

Reading is a complex process. Many and varied factors enter into teaching a child to read. Each child is a unique individual. No one reading method guarantees reading success to all children. Progress is motivated and slowly made by those interested in teaching the child to read. Much

evidence has been presented but there is need for much more in the field of reading readiness. Some experimental studies which might aid immeasurably in predicting reading success could be built around these areas:

1. The value of the learning rate test in predicting reading success.
2. The value of the use of individual progress charts to record reading successes.
3. The prognostic value of a specific reading readiness test as measured by success in reading in the first grade.

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